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ABSTRACT

This report describes the Teacher Resource and Computer Training Center Program that was enacted in 1984 by the New York State Education Department to provide systematic, ongoing professional development services for the state's teachers. It is a collaborative program involving teachers, school administrators, higher education representatives, business and industry representatives, and parents. Information is presented regarding: program history; program administration; technical assistance; center operation; center descriptions; staff development activities for 1984-86; linkages; evaluation process; impact; and statewide planning implications. The appendixes include maps and funding information as well as a directory of the training centers. (CB)

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ED 286 843

NEW YORK STATE TEACHER RESOURCE AND COMPUTER TRAINING CENTER PROGRAM

REPORT TO THE GOVERNOR AND LEGISLATURE

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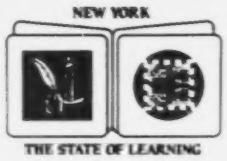

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PRESIDENT OF THE UNIVERSITY
AND COMMISSIONER OF EDUCATION
THE NEW YORK STATE EDUCATION DEPARTMENT
ALBANY, NEW YORK 12234

Dear Colleague,

Attached is a copy of a report I recently submitted to the Governor and Legislature of New York State describing the program and progress of the Teacher Resource and Computer Training Center program enacted in 1984.

We are distributing this report because we believe it includes information on a current New York State initiative of which we are justly proud. The Teacher Center program is an essential component of our State's comprehensive effort to enhance teaching and improve classroom instruction.

I commend this report to your attention and ask that you circulate it to interested colleagues.

Sincerely,

Gordon Ambach

THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, N.Y. 12234

PRESIDENT OF THE UNIVERSITY
AND COMMISSIONER OF EDUCATION
THE NEW YORK STATE EDUCATION DEPARTMENT
ALBANY, NEW YORK 12234

March 2, 1987

Dear Governor Cuomo:

Pursuant to the provisions of Education Law 316, I submit this report regarding the Teacher Resource and Computer Training Center program.

The purpose of the Teacher Resource and Computer Training Center program is to afford the schools and teachers of the State the opportunity to establish sites for the purpose of providing systematic, ongoing professional support services to teachers. At the present there are seventy-four teacher centers that serve approximately 170,000 public and non-public teachers, administrators and other school personnel. These centers are located statewide in 569 school districts and boards of cooperative educational services. Teacher centers are providing those professional services which teachers themselves have determined they need to enable them to do a more effective job in the classroom. Teacher center services are supplementary to district staff development programs and complement, rather than supplant, district initiatives.

This report reviews fiscal years 1984-85, 1985-86 and the first half of fiscal year 1986-87. In 1984-85, the Legislature appropriated $3.5 million and 44 teacher centers were established. In 1985-86, the Legislative appropriation increased to $6 million, allowing the continued support of existing centers and the establishment of 13 new centers, for a total of 57 teacher centers. In fiscal year 1986-87, the Legislative appropriation of $10 million funded 17 new centers, for a total of 74 currently funded teacher centers.

The attached report provides information regarding the administration of the Teacher Resource and Computer Training Center program, a description of the funded teacher centers, a summary of the professional development services being provided to teachers, an assessment of the impact of the program to date and a projection of future directions for the program.

Respectfully submitted,

Gordon M. Ambach

Attachment

The Honorable Mario M. Cuomo
Governor of the State of New York
State Capitol
Albany, New York 12224

A Report by The Commissioner of Education to The Governor and Legislature on The New York State Teacher Resource and Computer Training Center Program

The State Education Department does not discriminate on the basis of age, color, religion, creed, disability, marital status, veteran status, national origin, race, or sex in the educational programs and activities which it operates. Inquiries concerning this policy of equal opportunity and affirmative action should be referred to the Department's Affirmative Action Officer, Education Building, Albany, NY 12234. Phone (518) 473-1265.

The University of the State of New York
The State Education Department
March 1987

Table of Contents

I. EXECUTIVE SUMMARY 1

II. HISTORY OF THE PROGRAM 4

III. LEGISLATION 5

IV. ADMINISTRATION OF THE PROGRAM 7
- Application Review and Funding Process 7
- Monitoring 8

V. TECHNICAL ASSISTANCE 9
- Technical Assistance: Applicants for Funding 9
- Technical Assistance: Newly-Funded Teacher Centers 9
- Technical Assistance: New and Continuing Teacher Centers 9
- Technical Assistance Networks 10
- Program Leadership 10
- Telecommunications Pilot Project 10
- Handbook Development 11

VI. OPERATION OF CENTERS 12
- Role of Policy Boards 12
- Role of Center Staff 12
- Role of Teachers Served 13
- Role of Participating School Districts and Boards of Cooperative Educational Services 13
- Role of Local Education Agency as Fiscal Agent 14

VII. DESCRIPTION OF CENTERS 15
- Size Categories 15
- Regional Distribution 15
- History of Funding 16
- Fiscal Year 1984-85 16
- Fiscal Year 1985-86 18
- Fiscal Year 1986-87 19

VIII. SUMMARY OF STAFF DEVELOPMENT ACTIVITIES: 1984, 1985 and 1986 23
- Statutory Purpose 1 23
- Statutory Purpose 2 25
- Statutory Purpose 3 26
- Statutory Purpose 4 28
- Statutory Purpose 5 29
- Statutory Purpose 6 30

IX. LINKAGES 32
Linkages with Participating Schools 32
Linkages with Higher Education and Other Cultural Institutions 32
Linkages with Business and Industry 33
Linkages with the State Education Department 34
X. EVALUATION PROCESS 35
XI. IMPACT 37
Expanded Professional Development Services and Resources 37
Teacher Roles and Attitudes 37
Coordination with District Staff Development Programs 38
Effects on Classroom Learning 39
XII. STATEWIDE PLANNING IMPLICATIONS 40
XIII. APPENDICES 43
A. Postsecondary Education Regions of the Regents and Counties in New York State 43
B. History of Funding for New York State Teacher Resource and Computer Training Centers, Fiscal Years 1984-85, 1985-86 and 1986-87 44
C. New York State Teacher Resource and Computer Training Centers, 1986-87 Participating School Districts 47
D. New York State Teacher Resource and Computer Training Centers, 1986-87 Participating School Districts and Boards of Cooperative Educational Services 48
E. New York State Teacher Resource and Computer Training Centers, 1986-87 Location of Teacher Centers 49
F. New York State Teacher Resource and Computer Training Centers, 1986-87 Directory by Regional Networks 51

I
Executive Summary

Teacher Resource and Computer Training Centers were established in law by the New York State Legislature in 1984 in order to provide systematic, ongoing professional development services for the State's teachers. The legislation provides for the establishment of teacher centers to address the professional development needs which teachers themselves identify. The teacher center concept is a collaborative one, involving teachers, school administrators, higher education representatives, business and industry representatives and parents.

The Teacher Resource and Computer Training Center program is funded at $10 million for fiscal year 1986-87. This appropriation supports 74 teacher centers which serve approximately 170,000 public and nonpublic teachers, administrators and other school personnel statewide. Since the program's inception in 1984, it has grown significantly. The 1984-85 legislative appropriation of $3.5 million established 44 centers throughout the State. In 1985-86, the Legislature provided $6 million, expanding the program to 57 centers. The full report which accompanies this document identifies the 74 centers, the funding for each center, and regional distribution information.

Grants are awarded on a competitive basis to school districts, boards of cooperative educational services, or consortia of two or more districts and/or BOCES. Centers may be funded at a minimum of $20,000 and a maximum of $2,000,000.

State Administration

The program, administered by the Education Department's Office of Higher and Professional Education, is conducted according to the provisions of Section 316 of *Education Law* and Part 81 of the *Regulations of the Commissioner of Education*.

The Education Department publishes application guidelines, coordinates the review of applications and suggests awards to the Teacher Education, Certification and Practice Board. The Board, in turn, makes its recommendations to the Commissioner of Education, who makes final award determinations.

The Department's program staff monitor funded projects and provide technical assistance through a program of training institutes, periodic meetings, and assistance to individual centers as needed. Program staff also serve as a link with other Department offices and organizations to provide additional resources and information to centers.

Center Operation

As required by statute, each teacher center is operated by a board, a majority of members being teachers designated by the collective bargaining agent(s) of the teachers served. Other members represent the participating district(s) and/or BOCES, area institutions of higher education, local business and industry, nonpublic schools and parents.

The powers and duties of the teacher center board include policy formulation, the employment of staff and

consultants, budget control, and other appropriate managerial or supervisory activities. Boards govern under locally adopted constitutions and bylaws. The board and staff of each center work closely with the participating district(s), particularly the district or BOCES acting as the center's fiscal agent.

The teacher center model is a collaborative one in which all participating groups work cooperatively in the interest of providing the best possible staff development services to teachers.

Professional Development Services

Teacher centers primarily serve classroom teachers, but most centers provide services to other school personnel including administrators, teacher aides, and support staff. Two centers, in fact, provide services primarily to area principals. Some teacher centers include parents and the community in center activities, and others offer their services to teachers of other districts on a space-available basis.

The professional development activities provided by teacher centers must address at least one of the following six statutory purposes:

(1) Assist teachers, diagnose learning needs, experiment with the use of multiple instructional approaches, assess student outcomes, assess staff development needs and plans, and train other school personnel in effective pedagogical approaches.

(2) Provide demonstration and training sites where teachers are trained, specifically in the use of computers as teaching aides; the criteria for school acquisition and use of computer equipment and software; and the evaluation of computer-related materials.

(3) Develop and produce curricula and curricular materials designed to meet the educational needs of the students being served through application of educational research or new or improved methods, practices, and techniques.

(4) Provide training to improve the skills of teachers in order to enable such teachers to meet the specific needs for the pupils they serve, and to familiarize such teachers with developments in curriculum formulation and educational research, including the manner in which the research can be used to improve teaching skills.

(5) Provide a location where teachers may share resources, ideas, methods and approaches directly related to classroom instruction and become familiar with current teaching materials and products for use in their classrooms.

(6) Retrain teachers and other education personnel to become better qualified to teach in subject areas necessary to prepare students for the developing high technology era, in the disciplines of mathematics, science and computer technology.

During the first two and one half years of operation, teacher resource and computer training center programs have met teachers' needs through a variety of professional development activities consistent with the six statutory purposes. These activities encompass all areas of the elementary and secondary school curriculum, including changes necessitated by the Regents Action Plan; allow for the creation of new curricular materials; explore the critical aspects of classroom instruction; and promote the professional growth of teachers.

Evaluation

The Education Department has developed a monitoring and evaluation system to assess the effectiveness of individual center programs and to evaluate the success of the teacher center program statewide in accomplishing the intent of the legislation.

One component of this system requires each center to evaluate its success in meeting stated program objectives. A second level of assessment is conducted by the Education Department. Program staff evaluate the progress of individual center programs through the review of periodic progress reports and other program documents. In addition, the Department is responsible for assessing the statewide program. To assist in this effort, an outside consultant was engaged to verify the services provided, to identify the nature and extent of

teacher centers' influence on teachers' professional growth, to assess the impact of the teacher center program on district staff development efforts, and to make recommendations for improvement in the administration of the program statewide.

Unfortunately, the absence of a State purposes appropriation has precluded adequate implementation of important aspects of the evaluation system, such as on-site visits to centers and follow-up technical assistance to individual centers.

Impact

The Teacher Resource and Computer Training Center program has had a significant impact on staff development in New York State. Briefly, the program has been responsible for the following changes:

- There are a larger number, a greater variety, and more accessible professional development services available to teachers than ever before. Services include credit and non-credit courses and workshops, individual grant programs, accessible curriculum and research information, professional discussion groups, inter-classroom visitations, access to technological and other types of equipment and supplies, and individual consultations relating to classroom instruction.
- Teachers have increased their skills in the use of computers, related technology and instructional software, and are integrating this technology into classroom instruction.
- There is greater interest on the part of teachers in staff development activities in general, and requests for services have greatly increased.
- District staff development programs have been enhanced. Through collaboration, teacher centers and school districts are able to offer a broader array of services than either could offer individually.
- A growing body of teacher-designed curricula and materials is available to enhance classroom instruction.
- Teachers are assuming new professional roles as teacher center administrators, policy board members, workshop leaders, peer coaches, and curriculum developers.
- There is a growing sense of professionalism among teachers through their direction of and involvement in teacher center programs.
- There is early evidence that teacher center programs are beginning to improve classroom teaching and student learning.

Statewide Planning Implications

The rapid growth of the Teacher Resource and Computer Training Center program during its first two and one-half years, the increasing sophistication of the professional development programs offered by maturing centers, and the increasing demand for teacher center services present a variety of competing priorities for the program. The following efforts have high priority in the future administration of the program:

- Give special consideration to the establishment of teacher centers in underserved areas of the State.
- Increase services to teachers through the creation of new centers and the expansion of current centers.
- Institute regular on-site monitoring and technical assistance visits to all teacher centers as resources become available.
- Encourage long-range planning by teacher centers.
- Expand technical assistance to centers, including the expansion of the teacher center telecommunications network and the development of a handbook for center operation.
- Assist teacher centers in the systematic assessment of the effects of center programs on classroom learning.
- Improve dissemination of information about successful programs throughout the State.
- Enhance the cooperative relationship between teacher centers and their cooperating school districts.
- Respond to the needs of individual teacher centers in center management and program planning.

II
History of the Program

Teacher Resource and Computer Training Centers were established in law by the New York State Legislature in 1984 to provide systematic, ongoing professional development services for the State's teachers.

The concept of teacher centers dates back to the 1940's and is based on providing those professional development services which teachers themselves have determined they need to enable them to do a more effective job in the classroom. Teacher centers have been established world-wide in varying forms, and today operate in a number of other countries including England, Australia, and Japan.

In the United States the federal teacher center program, upon which the current New York State program is modeled, was created in 1978 under the Higher Education Act. This program was an effort to improve the quality of teaching throughout the nation by establishing centers which gave teachers major responsibility for designing programs to meet their own professional development needs. Eight centers were established in New York State under the federal program. However, in September 1980, after less than three years of operation, the federal teacher center program along with many other federally-funded education initiatives was abolished.

The current New York State statute creating teacher resource and computer training centers was enacted, first as a response to the successful efforts of the State's formerly federally-funded teacher centers, and second as a response to strong interest from the State Education Department and teacher organizations. Interest in and support for the program is evidenced by its growth from a $3.5 million program supporting 44 centers in 1984 to a $10 million program currently supporting 74 teacher centers statewide.

Among the several statewide initiatives undertaken in the past few years to strengthen teaching and to increase staff development opportunities, the Teacher Resource and Computer Training Center program is unique in its contribution to the professional development of New York's teachers.

III
Legislation

The New York State Teacher Resource and Computer Training Center Program was created by Chapter 53 of the Laws of 1984. The law defines a teacher resource and computer training center as any site operated by a school district, board of cooperative educational services, or a consortium of districts and/or boards of cooperative educational services specifically established under this law to provide professional support services to teachers within six generally-stated purposes. The six statutory purposes are as follows:

(1) Assist teachers, diagnose learning needs, experiment with the use of multiple instructional approaches, assess student outcomes, assess staff development needs and plans, and train other school personnel in effective pedagogical approaches.

(2) Provide demonstration and training sites where teachers are trained, specifically in the use of computers as teaching aides; the criteria for school acquisition and use of computer equipment and software; and the evaluation of computer-related materials.

(3) Develop and produce curricula and curricular materials designed to meet the educational needs of the students being served through application of educational research or new or improved methods, practices , and techniques.

(4) Provide training to improve the skills of teachers in order to enable such teachers to meet the specific needs for the pupils they serve, and to familiarize such teachers with developments in curriculum formulation and educational research, including the manner in which the research can be used to improve teaching skills.

(5) Provide a location where teachers may share resources, ideas, methods and approaches directly related to classroom instruction and become familiar with current teaching materials and products for use in their classrooms.

(6) Retrain teachers and other education personnel to become better qualified to teach in subject areas necessary to prepare students for the developing high technology era, in the disciplines of mathematics, science and computer technology.

There is a clear link between the teacher center program in New York State and the teacher centers which previously existed under the now defunct federal program. In addition to its similarity of purpose, this legislation provides that the application criteria and program standards established by the Commissioner "shall be consistent with federal regulations which were applicable to teacher resource centers in operation during the 1982 calendar year."

A key provision of the law is the governance structure required for each teacher center, which mandates on the one hand a majority voice for teachers and on the other hand requires close collaboration among teachers, school districts and other participating organizations. Each center is required to operate under a board, the majority of whose members must be teachers designated by the collective bargaining agent of the teachers served by the center. The balance of the board members are individuals designated by the school board or board of cooperative educational services, as well as at least one representative of area non-public schools, at least one representative designated by area institutions of higher education, at least one parent and at least one representative of an area business or industry that uses, produces or is involved with computer equipment and software.

These boards are empowered to formulate policy for the center, employ staff and consultants, control the budget and the expenditure of funds, make recommendations for subcontracting to secure technical and other kinds of assistance, and to perform any other appropriate managerial or supervisory activities not otherwise prohibited by State or local law or regula-

tion. These broad powers given to policy boards create a unique and continually evolving relationship between teacher centers and their participating schools, particularly that district or board of cooperative educational services which acts as a center's fiscal agent.

Taken together, these features of the enabling legislation assure the operation of the Teacher Resource and Computer Training Center program in New York as a professional development program based on expressed needs of the teaching professionals they serve.

IV
Administration of the Program

The teacher center program is administered by the Education Department's Office of Higher and Professional Education, based on the provisions of the enabling legislation and Part 81 of the ***Regulations of the Commissioner of Education.***

The Department publishes application guidelines, coordinates the review of applications, prepares funding recommendations, monitors funded centers for compliance with program requirements, and provides technical assistance to centers on an on-call basis as well as through a structured program of training institutes and other periodic meetings. Program staff work with other Department offices and other organizations, creating linkages and providing teacher centers with resources and opportunities for collaboration.

The Teacher Education, Certification and Practice Board also plays a role in the administration of the teacher center program. The Teacher Education, Certification and Practice Board, composed of school and college representatives and one lay member, provides advice and assistance to the Commissioner and the Regents on all school personnel matters. The Board is required by statute to make recommendations to the Commissioner regarding the applications for support of the teacher centers.

Application Review and Funding Process

Each fiscal year all applicants, including established centers, are required to submit an application for funding. As required by statute, the Commissioner establishes criteria and standards by which the applications are evaluated. The law further requires that these criteria and standards be consistent with federal regulations which were applicable to teacher resource centers in operation under the now defunct federal program, thus assuring a continuation of that effort.

The Department's program office, with the advice of the Teacher Education, Certification and Practice Board and under the direction of the Commissioner, has developed an application process and application materials for each funding year. The Department notifies all school districts, boards of cooperative educational services, and teacher associations of the upcoming funding year competition several months prior to the application deadline. Application information packets are mailed to all schools and other interested parties requesting them, typically in December of each year. As part of its technical assistance function, staff conduct information sessions for both prospective applicants and those established centers reapplying for funds.

The deadline for submission of applications is late March or early April. Applications are reviewed and rated by staff of various offices in the Department who are chosen for their extensive experience in the administration of grant programs. The teacher center program office then ranks the applications based on these reviews and prepares its funding recommendations for review by the Teacher Education, Certification and Practice Board in May. Recommendations of staff and those of the TECAP Board are then forwarded to the Commissioner for his final funding determinations. Award notices are issued by the Commissioner in June. Successful applicants are funded from July 1 through June 30.

Unsuccessful applicants may submit a revised application for further consideration anytime within 45 days of the date of the rejection notice. To date, no unsuccessful applicants have chosen to avail themselves of this option.

Monitoring

The Department has designed a system to monitor funded teacher centers through the following components: off-site review, on-site review and self-study.

Centers are required to submit certain documents which provide necessary evidence about a center's operation and compliance with program requirements, and which are tied to the release of funds according to a prescribed schedule. Each center must submit an interim report of its progress toward its stated objectives and any adjustments in its program plan, as well as a final report at the end of the program year. In addition, any proposed changes in a center's budget during the funding year must be submitted for approval by the Department's program and fiscal offices.

All centers must also submit to the program office minutes of their policy board meetings, program announcements, newsletters, and any other information which documents the conduct of the center's program. These are reviewed by staff for compliance with statutes and regulations, as well as for consistency with a center's plan as it was proposed and funded.

Each center is also required to conduct an annual self-study. This study is designed to involve a center's policy board and staff in an intensive self-evaluation of the center's overall effectiveness in terms of its stated mission and goals and of its adherence to the intent of the legislation.

A format has been developed for the conduct of site visits and the reporting of findings which includes the following:

- review physical resources
- review center records
- review equipment purchased from State grant funds
- validate progress reports
- interview a sample of teachers who use center facilities
- attend a scheduled policy board meeting
- attend a center professional development activity
- provide technical assistance as requested

However, due to a lack of staff and travel funds, only a few centers, to date, have been officially visited.

V
Technical Assistance

The teacher resource and computer training center legislation requires the Education Department to furnish technical assistance to applicants for teacher center funding and to the personnel of funded centers. The technical assistance furnished by the Education Department program office takes the following forms.

Technical Assistance: Applicants for Funding

At the time the request for proposals is circulated to all school districts, boards of cooperative educational services and association presidents in the State announcing the upcoming funding year competition, potential applicants are invited to attend an informational session. Two separate half-day sessions are held in Albany for those wishing clarification on program requirements and application materials. Education Department staff are also available at any time to provide information to applicants and answer questions.

As part of the application review process, readers are asked to comment on each application's strengths and weaknesses. After the awards are announced, readers' comments and ratings are furnished to all applicants requesting them. Successful and unsuccessful applicants alike may contact the Education Department program office at any time for clarification of readers' comments.

Technical Assistance: Newly-Funded Teacher Centers

Immediately after grant award announcements are made each year, a full-day session is held in Albany for all successful first-year applicants. This session is designed to review terms and conditions of the grant and to provide assistance in start-up operation of new centers.

Also, directors and policy board chairs of new centers participate in the annual summer training institute described below. A segment of this institute is designed specifically to address the needs of newly-funded centers. These sessions are conducted by State Education Department program office staff and experienced teacher center personnel from around the State.

New centers are telephoned periodically to offer assistance and are invited to call the program office for help as needed. Also, each new center is assigned to one of six regional teacher center networks, described elsewhere in this report, which are very helpful in providing assistance locally.

Technical Assistance: New and Continuing Teacher Centers

Shortly following announcement of grant awards in June, all successful applicants, including both new and continuing centers, are informed of the week-long summer training institute held each year in August. All center directors and representatives of each policy board are encouraged to attend.

A planning committee of teacher center directors and policy board members assists in planning the agenda for the summer institute, which includes sessions on the technical aspects of teacher center operation, techniques and content of effective staff development programs, current research on effective staff development, current issues affecting teacher centers and their operation, technological innovations, and many other pertinent topics. The institute also provides the opportunity for teacher centers to share information on successful programs in their individual centers. Consultants with statewide and national reputations present at this institute, as well as many of the effective teachers connected with teacher centers.

In addition, a one-day statewide teacher resource and computer training center meeting is held in conjunction with the annual Statewide Conference on Inservice Education held each year in November or December. A central focus of this meeting is the annual preparation of the applications and related topics.

A two-day spring meeting is also held each year. Its focus is the development and approval of policy guidelines for teacher center operation statewide. In addition, it is a time for presenting various Education Department program resources and for discussing timely staff development topics.

Throughout the year, Education Department program office staff review individually each center's programs and fiscal plans, budget modifications and requests for payments. Technical assistance is given whenever adjustments in a center's program become necessary. Staff are also available at all times to respond to requests for assistance from the centers.

Technical Assistance Networks

In order to expand technical assistance opportunities for teacher centers, six regional networks have been formed across the State. The seventy-four centers are divided into the following networks: Central New York, Eastern Upstate, Far West, Greater Rochester, Long Island, and Lower Hudson. Each network elects a regional coordinator who has responsibility for organizing periodic regional training sessions during which center staff share expertise and ideas, plan regional activities, and discuss common problems. Networks also provide important help for newly-established centers in their areas and are able to share resources which may otherwise be unavailable to any individual center. Education Department program office staff attend a number of these meetings to provide information and assistance.

Program Leadership

Another aspect of the Department's technical assistance responsibility is program leadership which is carried out in the following ways:

1. Direction in the development of technical aspects of teacher center operation such as comprehensive needs assessment processes, documentation and evaluation systems, construction of bylaws and constitutions, program budgeting, fiscal management, and policy board operations.
2. Dissemination of current articles, bibliographies and other materials describing current research on effective staff development.
3. Establishment of linkages between centers and other Education Department program offices, State cultural education facilities and other State agencies which have potential for supplying resources to the teacher centers and an interest in disseminating information to teachers.
4. Dissemination of information about exemplary individual teacher resource and computer training center staff development programs at the annual Statewide Conference on Inservice Education sponsored by the State Education Department and twelve major professional organizations. Attendance at this conference includes school district personnel from across the State.

Telecommunications Pilot Project

During the 1986-87 fiscal year, the Education Department began the pilot phase of a long-term project to expand its technical assistance capabilities through the establishment of a telecommunications network linking the Department and individual centers.

The project has the following purposes:

1. To link the Department and, eventually, all centers by computer to enable efficient and timely communication between the program office and the field, as well as among the centers themselves;
2. To provide the opportunity through the system's teleconferencing capabilities for Department program staff and center staff to engage in online dialogue on staff development issues and other topics related to the operation of teacher center programs;
3. To afford teacher centers access to a rapidly-expanding system of online data bases such as ERIC, as well as direct access to offices within the Department which provide information on curriculum, technology and other topics; and
4. To eventually expand this teleconferencing capability to the individual teachers served by the centers for their use both in the classroom and for individual research.

During this pilot phase of the project, the directors of twelve selected centers (two from each network) and Department staff were trained under a contract with New York Institute of Technology in the use of the PARTI teleconferencing system. These twelve center directors, in turn, have the responsibility to train other interested directors in their respective networks. To date, a total of 20 teacher centers have received training and joined the system. More are expected to join in the near future.

Handbook Development

A handbook for use by the New York State Teacher Resource and Computer Training Centers is currently under development. Its preparation is a cooperative effort between Education Department program office staff and teacher center personnel with expertise in various areas. The purpose of the handbook will be to guide both continuing and new centers in effective operation practices.

VI
Operation of Centers

The effective operation of a teacher center depends upon the cooperation of each of the participating groups: the teacher center policy board, the teacher center director and his or her staff, the teachers served, and the participating school districts and boards of cooperative educational services. The roles of each are described below.

Role of Policy Boards

Each teacher center is operated by a board, as prescribed by statute. Because of the primary importance of the board in the operation of a teacher center, the Department requires that a duly constituted board be in place and its bylaws adopted even before an application for funding is submitted. The board is expected to play a major role in the development of the application benefitting from the commitment and contribution of the participating groups represented in its membership — teachers, public and non-public school representatives, parents, higher education, and business and industry.

The board plays a central role in the operation of a teacher center and has broad duties and responsibilities. A major responsibility is determining the center's programs in order to meet the needs of the teachers served. To accomplish this, the board hires a director and other staff; controls the budget which includes State grant funds, in-kind contributions, and any other revenue; contracts with consultants; and plays a major role in evaluating the center's effectiveness.

In order to fulfil these responsibilities, policy boards meet regularly. In the case of larger boards, an executive committee may be formed to meet on a more frequent basis than the full board, for the purpose of handling certain designated functions. Each policy board elects a chair and forms standing and ad hoc committees as appropriate to that particular center.

Role of Center Staff

While the role of the board is policy formulation, the daily administration of a teacher center is the responsibility of the center director. The director is chosen by the policy board and, in many instances, is a recent classroom teacher on special leave.

Each center has either a part-time or full-time director, depending on the size and scope of the center's program. Some of the larger centers also employ additional staff to assist in the operation of the center and to perform some of the staff development activities requested by teachers. The following are examples of these additional staff positions: assistant directors, training specialists, program coordinators, computer teachers and other helping teachers, materials management specialists, and secretarial and clerical staff. One center's staff includes the president of the local teachers' association. At another, community volunteers prepare teaching materials requested by teachers. A principals' center has instituted the position of principal in residence. And the New York City Teacher Center Consortium relies on 31 master teachers to provide professional support to the teachers of the New York City School District's many component schools.

Consortium centers have a particular need for administrative assistance in order to keep all their participating schools informed and active in the center. Most of the larger consortia have developed a network of "building ambassadors," site coordinators, or similar persons. These typically are teachers who volunteer to provide coordination and personal presence in their school buildings on behalf of the teacher center.

The primary responsibility of a center director, with the support of his or her staff, is to carry out the policies of the board, coordinate and deliver the professional development services requested by teachers, work with the staff and administration of the participating schools to coordinate services with district inservice programs, and to fulfill the fiscal and program reporting requirements of the Education Department. As part of their professional responsibilities, teacher center directors also bring current staff development research and curriculum information to the attention of their policy boards and the teachers served by the center.

Role of Teachers Served

The key concept in teacher center programming is the identification by teachers of their most critical needs for professional development services which will enable them to improve their teaching. To ensure that teachers are actually being surveyed, each center is required to develop a systematic plan for assessing teacher needs, for determining program priorities and establishing yearly plans outlining objectives and activities. In addition to surveys, interviews, and other means of assessing needs, policy board members, the majority of whom are teachers, bring staff development needs to the attention of the full board.

Teacher centers are urged to first use the talents of their own experienced teaching staff to conduct agreed upon staff development activities, unless an outside consultant with special expertise is required. Most centers rely heavily on this valuable resource, which not only benefits the center's program, but also creates important new roles for teachers.

Role of Participating School Districts and Boards of Cooperative Educational Services

As described previously in this report, Teacher Resource and Computer Training Centers have a unique relationship with their participating school districts and/or boards of cooperative educational services. Though the teacher center policy board is autonomous with respect to the internal management and policies of the center, the participating schools play several important roles. In fact, school commitment to and involvement in a teacher center have been found to be key determinants in the impact and success of a center's program.

Participating schools contribute to the formation and operation of a teacher center through their representation on the policy board. School representatives on the board serve as an important communication link between their schools and the center.

In order to effectively coordinate the activities of the teacher center with the staff development programs of participating districts, school district staff and teacher center staff must keep in close contact. In many instances, teacher center directors are included in district staff development committee meetings and administrative cabinet meetings in order to keep the district informed about teacher center needs and activities as well as to allow for coordination of teacher center activities with district programs. Through these joint meetings, duplication of staff development activities is avoided and both teacher center and district resources are more effectively used.

Another important aspect of schools' involvement and commitment to a teacher center is the inkind support given to the center to supplement State grant funds. Some contribute the salaries and fringe benefits of district employees working in the center, or a portion of these costs. Some schools earmark district funds specifically for use by the center, such as a portion of district staff development funds, or district ESEA Title II funds. Most often, inkind support takes the form of donated services and physical resources. These may include donation and renovation of the center site; use of other district facilities, such as auditoriums, meeting space, and photocopying and other equipment; and subsidization of phone costs, custodial services and utilities. Participating schools support the center's program in other ways, also. They may cover the cost of substitutes to allow teachers to participate in training

and other activities, cover the cost of consultants, donate district staff time, or provide honoraria for in-house consultants to the center.

The importance of inkind support cannot be overestimated, both as evidence of school commitment and as an important contribution to the success of a center's activities. Each teacher center must furnish the Department with information on the inkind support it receives. Established centers are expected to exhibit growing financial and other support from their participating schools, and in the majority of instances, this has been the case. It is estimated that district and BOCES inkind support currently accounts for approximately $10 million, or one half of the total budgets of the teacher centers statewide.

Role of Local Education Agency as Fiscal Agent

One crucial aspect of the relationship between teacher centers and their participating schools is the role of the local education agency acting as the center's fiscal agent. In single district centers, of course, the school district acts as fiscal agent. In the case of consortia, however, one district or BOCES serves as the center's fiscal agent for purposes of applying for and receiving State funding on behalf of the center. As fiscal agent, the school also makes expenditures as authorized by the teacher center board. In addition, many schools serve as the official employers of teacher center staff, again, as authorized by teacher center boards. A school will often agree to place center staff on the school's payroll or will release existing staff to the center on leave, special assignment, or similar arrangement.

The powers and duties of policy boards as prescribed by the legislature require careful consideration as they are applied through the district or BOCES serving as fiscal agent for teacher centers. There is a critical need for communication and development of ways to accommodate the needs, policies, and operating procedures of both parties. Some of the issues which require ongoing clarification and negotiation, as well as direction from the Department are:

- Who will provide liability insurance for center staff and activities?
- How will the employment of center staff be accomplished?
- Who will participate in the supervision and evaluation of center staff?
- How will salaries for center staff be determined?
- Should fringe benefits be paid for teachers who serve as consultants or teacher trainers for center activities?
- What are the seniority and tenure rights of the center staff?
- What guidelines will be used for equipment purchases?

As the teacher center program matures, all centers are benefitting from the collective experience of the many districts and centers which have found creative solutions to these issues. A Superintendents' Advisory Committee, which was formed to advise the program on district perspectives, together with working groups of teacher center directors and policy board members have contributed a great deal to this process. The committees' recommendations will be incorporated into the teacher center program handbook which is currently being developed. Department staff, of course, continue to assist centers on an individual basis when new issues arise.

VII
Description of Centers

Size Categories

By law, a teacher center may apply for funding either as a single district/single board of cooperative educational services, or as a consortium of two or more districts and/or boards of cooperative educational services. Applications are evaluated within the following five size categories specified in the legislation: single district with more than 1,000 teachers, single district with 500-999 teachers, single district with fewer than 500 teachers, single board of cooperative educational services, or consortium.

The distribution of teacher centers established across size categories is dependent upon the number of applicants within each category. Table 1 below shows the number of funded centers within each statutory category for fiscal years 1984-85, 1985-86, and 1986-87.

Table 1

Size	Number of Centers		
	1984-85	1985-86	1986-87
1) Single District, greater than 1,000 teachers	5	5	5
2) Single District, 500-999 teachers	1	3	9
3) Single District, less than 500 teachers	16	20	23
4) Single BOCES	0	0	0
5) Consortium	22	29	37
TOTAL	**44**	**57**	**74**

Regional Distribution

Part 81 of the ***Regulations of the Commissioner of Education*** provides for the distribution of centers on a regional basis. For administrative purposes, teacher centers are designated as being located in one of the eight postsecondary education regions established by the Board of Regents. Teacher centers have been established in each region, although some areas of the State are currently more fully served than others. The distribution of teacher centers across regions is dependent upon the number of applications within each region.

Table 2 below shows the distribution of centers within each region for fiscal years 1984-85, 1985-86, and 1986-87. (See Appendix A for a map locating the postsecondary education regions.)

Table 2

Postsecondary Education Region	Number of Centers 1984-85	1985-86	1986-87
1 Western	3	4	6
2 Genesee Valley	3	6	9
3 Central	9	10	10
4 Northern	2	2	2
5 Northeast	4	4	7
6 Mid Hudson	11	14	17
7 New York City	1	1	1
8 Long Island	11	16	22
Total	**44**	**57**	**74**

History of Funding

As provided by statute, the minimum award a teacher center may receive is $20,000. During these first three fiscal years, the maximum award allowed was $750,000. However, in July, 1986 the Legislature amended Section 316 of Education Law to allow, in future years, individual awards of up to $2,000,000. The following Tables 3, 4 and 5 show the distribution of State funds awarded for the first three years of the Teacher Resource and Computer Training Center program.

Fiscal Year 1984-85

The legislative appropriation for the Teacher Resource and Computer Training Center program's first year was $3.5 million. Fifty-eight applications were received, requesting $9,341,774 in funds. Forty-four teacher centers were funded. Table 3 below shows the distribution of funds for fiscal year 1984-85.

Table 3

Name of Center	Size Category	Region	# Districts Served	# Teachers Served	State Funding
Ardsley Greenburgh & Elmsford	5	6	3	520	$ 115,000
Broome & Tioga Counties	5	3	16	2,764	100,000
Buffalo	1	1	1	4,200	500,000
Catskill Regional	5	3	44	2,402	110,000
Cayuga Onondaga	5	3	14	1,236	40,000
Central New York	5	3	16	3,428	40,000
East Ramapo	1	6	1	1,400	100,000
Endicott	3	3	1	380	50,000
Greater Capital Region	5	5	104	12,296	200,000
Inter County	5	8	1	283	20,000
Islips	5	8	4	2,291	20,000
Jamesville DeWitt	3	3	1	283	20,000
Jefferson Lewis	5	4	18	1,547	20,000
Long Island	5	8	131	652	30,000

Name of Center	Size Category	Region	# Districts Served	# Teachers Served	State Funding
Mamaroneck	3	6	1	406	20,000
Mid East Suffolk	5	8	27	7,000	80,000
Middletown	3	6	1	350	60,000
Mohawk Regional	5	5	13	941	30,000
Nassau	5	8	3	784	20,000
New Hartford	3	5	1	210	20,000
New York City	1	7	1	75,000	700,000
North Bellmore	3	8	1	140	20,000
North Country	5	5	44	2,126	100,000
Northern Westchester/ Putnam	5	6	7	537	90,000
Nyack	3	6	1	180	20,000
Oceanside	3	8	1	395	20,000
Orleans Niagara	5	1	16	3,301	80,000
Oswego County	5	3	6	1,109	20,000
Pittsford	3	2	1	390	35,000
Rochester	1	2	1	1,850	100,000
Rockland Haverstraw Stony Point	2	6	1	525	100,000
Rush Henrietta	3	2	1	384	20,000
Scarsdale	3	6	1	319	30,000
South Huntington	3	8	1	450	30,000
Southampton Hampton Bays	5	8	1	100	20,000
Southtown	5	1	3	650	40,000
St. Lawrence Valley	5	4	9	1,650	20,000
SUC Purchase	5	6	10	5,000	30,000
Sullivan County	5	6	12	850	20,000
Syracuse	1	3	1	1,469	280,000
Wantagh Seaford	5	8	2	445	50,000
West Genesee	3	3	1	403	25,000
Westhampton Beach	5	8	5	171	20,000
White Plains	3	6	1	480	35,000
" Total "			**529**	**141,297**	**$3,500,000**

Fiscal Year 1985-86

The legislative appropriation was increased to $6 million in the program's second year of operation. Sixty-seven applications were received, requesting $11,495,656 in funds. Fifty-seven teacher centers were funded, including all previously funded centers. Table 4 below shows the distribution of funds for fiscal year 1985-86.

Table 4

Name of Center	Size Category	Region	# Districts Served	# Teachers Served	State Funding
Ardsley Greenburgh & Elmsford	5	6	3	770	$ 125,000
Broome Tioga Counties	5	3	16	2,865	150,000
Buffalo	1	1	1	4,175	525,000
Catskill Regional	5	3	44	1,560	130,000
Cayuga Onondaga	5	3	10	1,091	80,000
Central New York	5	3	16	3,428	100,000
Dryden	3	3	1	155	40,000
East Ramapo	1	6	1	1,400	140,000
Endicott	3	3	1	180	60,000
Erie Catt	5	1	10	1,777	100,000
Greater Capital Region	5	5	104	12,633	300,000
Inter County	5	8	1	283	30,000
Islips	5	8	1	375	55,000
Jamesville DeWitt	3	3	1	280	23,000
Jefferson Lewis	5	4	18	1,807	150,000
Levittown	2	8	1	550	55,000
Long Island	5	8	29	6,393	55,000
Mamaroneck	3	6	1	406	30,000
Mid East Suffolk	5	8	37	8,265	180,000
Mid Hudson	5	6	24	4,446	110,000
Middletown	3	6	1	350	70,000
Mohawk Regional	5	5	14	1,224	100,000
Nassau	5	8	5	1,615	65,000
New Hartford	3	5	1	243	35,000
New Rochelle	2	6	1	600	65,000
New York City	1	7	1	63,385	750,000
North Bellmore	3	8	1	140	30,000
North Country	5	5	45	2,280	165,000
Northern Westchester/ Putnam	5	6	6	468	100,000
Nyack	3	6	1	180	40,000
Oceanside	3	8	1	395	35,000
Orleans Niagara	5	1	16	3,168	110,000
Oswego County	5	3	8	1,556	80,000
OWL at Lindenhurst	5	8	3	1,025	45,000

Name of Center	Size Category	Region	# Districts Served	# Teachers Served	State Funding
Pittsford	3	2	1	390	70,000
Plainedge	3	8	1	242	22,000
Rochester	1	2	1	2,489	140,000
Rockland Haverstraw Stony Point	2	6	1	525	115,000
Rush Henrietta	3	2	1	384	35,000
Scarsdale	3	6	1	307	45,000
Schuyler Chemung Tioga/Corning	5	2	9	1,952	100,000
South Huntington	3	8	1	450	40,000
Southampton Hampton Bays	5	8	1	223	20,000
Southtown	5	1	3	669	100,000
St. Lawrence Valley	5	4	10	1,650	30,000
SUC Purchase	5	6	10	3,215	115,000
Sullivan County	5	6	10	1,025	85,000
Syracuse	1	3	1	1,469	305,000
Valley Stream	5	8	4	538	70,000
Wantagh Seaford	5	8	2	499	70,000
Wayne Finger Lakes	5	2	22	2,710	100,000
West Genesee	3	3	1	403	75,000
West Irondequoit	3	2	1	205	35,000
Westchester	5	6	19	161	70,000
Western Suffolk	5	8	10	3,500	100,000
Westhampton Beach	5	8	9	3,472	75,000
White Plains	3	6	1	480	55,000
"Total"			**544**	**156,426**	**$6,000,000**

Fiscal Year 1986-87

The legislative appropriation was increased to $10 million in the program's third year. Seventy-nine applications were received, requesting $14,500,578 in funds. Seventy-four teacher centers were funded, including all previously funded centers. Several consortia added districts to their centers. Table 5 below shows the distribution of funds for fiscal year 1986-87. (See Appendix E for a map of the 74 currently-funded teacher centers.)

Table 5

Name of Center	Size Category	Region	# Districts Served	# Teachers Served	State Funding
Ardsley Greenburgh & Elmsford	5	6	3	450	$ 140,000
Bedford	3	6	1	275	70,000
BOCES/CHHOP	5	6	5	1,004	70,000
Brighton	3	2	1	220	65,000
Bronxville	3	6	1	99	40,000
Broome Tioga Counties	5	3	17	1,974	185,000

Name of Center	Size Category	Region	# Districts Served	# Teachers Served	State Funding
Buffalo	1	1	1	4,200	600,000
Catskill Regional	5	3	40	2,428	210,000
Cayuga Onondaga	5	3	10	1,424	160,000
Central New York	5	3	16	3,525	190,000
Chautauqua County	5	1	18	1,862	100,000
Connetquot	2	8	1	726	70,000
Dryden	3	3	1	150	60,000
East Meadow	2	8	1	586	70,000
East Ramapo	1	6	1	1,400	165,000
Endicott	3	3	1	340	75,000
Erie Catt	5	1	10	1,793	160,000
Genesee Region	5	2	3	350	100,000
Greater Capital Region	5	5	104	14,635	440,000
Herricks Consortium	3	8	1	380	70,000
Inter County	5	8	9	1,026	135,000
Islips	5	8	2	722	85,000
Jamesville DeWitt	3	3	1	280	60,000
Jefferson Lewis	5	4	18	1,487	210,000
Levittown	2	8	1	550	80,000
Long Island	5	8	31	880	100,000
Mamaroneck	3	6	1	400	70,000
Manhasset	3	8	1	180	50,000
Massapequa	2	8	1	548	70,000
Mid East Suffolk	5	8	36	9,130	310,000
Mid Hudson	5	6	25	4,682	200,000
Mid State	5	5	10	955	100,000
Middle Country	2	8	1	920	100,000
Middletown	3	6	1	374	80,000
Mohawk Regional	5	5	14	1,197	130,000
Nassau	5	8	8	3,190	140,000
New Hartford	3	5	1	220	50,000
New Rochelle	2	6	1	637	95,000
New York City	1	7	1	75,000	750,000
North Bellmore	3	8	1	140	50,000
North Country	5	5	29	3,000	260,000
Northern Westchester/ Putnam	5	6	9	781	155,000
Nyack	3	6	1	220	55,000
Oceanside	3	8	1	420	65,000
Orleans Niagara	5	1	15	3,214	160,000
Oswego County	5	3	9	1,823	160,000
OWL at Lindenhurst	5	8	3	1,039	80,000
Pittsford	3	2	1	360	80,000
Plainedge	3	8	1	216	35,000
Rochester	1	2	1	2,300	270,000

Name of Center	Size Category	Region	# Districts Served	# Teachers Served	State Funding
Rockland Haverstraw Stony Point	2	6	1	650	140,000
Rome	2	5	1	647	70,000
Rush Henrietta	3	2	1	440	60,000
Scarsdale	3	6	1	313	65,000
Schuyler Chemung Tioga/Corning	5	2	9	1,927	170,000
South Huntington	3	8	1	450	75,000
Southampton Hampton Bays	5	8	2	255	70,000
Southern Tier	5	1	11	545	100,000
Southtown	5	1	3	657	125,000
St. Lawrence Valley	5	4	20	1,780	170,000
SUC Purchase	5	6	14	2,742	150,000
Sullivan County	5	6	11	850	130,000
Syracuse	1	3	1	2,005	370,000
Utica	2	5	1	850	100,000
Valley Stream	5	8	4	539	80,000
Victor	3	2	1	180	50,000
Wantagh Seaford	5	8	2	246	80,000
Wayne Finger Lakes	5	2	24	2,700	160,000
West Genesee	3	3	1	363	85,000
West Irondequoit	3	2	1	215	55,000
Westchester	5	6	35	667	115,000
Western Suffolk	5	8	12	4,091	200,000
Westhampton Beach	5	8	7	280	85,000
White Plains	3	6	1	486	70,000
" Total "			**635**	**177,590**	**$10,000,000**

While all Teacher Resource and Computer Training Centers operate within the six statutory purposes discussed previously in this report, the legislation does not prescribe the manner in which centers must address these purposes. This allows each center to design a program tailored to the needs of its locality and the teachers it serves. Hence, the seventy-four currently-funded centers vary widely in size, location, and services, as well as in the teacher populations they serve.

The size of single district teacher centers ranges from Bronxville Teacher Resource and Computer Training Center, which serves a district of 99 teachers, to the New York City Teacher Center Consortium, with a teacher population of 66,323. Consortium centers also vary in size, from Wantagh Seaford Teacher Resource and Computer Training Center, a small two-district center serving 246 teachers, to the Greater Capital Region Teacher Center which covers a fourteen county geographic area and serves the 14,635 teachers of its 104 participating districts.

Teacher centers have developed along either "drop-in" or "outreach" models or some combination of approaches. In most single district or small consortium centers where teachers have easy access, the centers tend to use a drop-in approach where teachers gather to work, pursue research, participate in inservice courses and workshops, form discussion groups, prepare curricula and classroom materials and engage in a variety of other staff development activities.

In most consortium centers, especially those encompassing a large geographic area, a central administrative office is maintained, while the director and staff travel to outlying sites and conduct staff development activities at locations where teachers can gather more easily. Many of these are permanent satellite

sites and often have volunteers or paid staff to assist in maintaining communication with teachers and in coordinating activities.

Teacher center sites are diverse as well. Most commonly, centers are located in school buildings or BOCES centers. Some centers are located on the campuses of colleges which cooperate closely with the work of the center. A few occupy store fronts, and another is located in a community library. One center is actually a mobile computer training facility, housed in two converted school buses which travel from school to school.

As mentioned previously, individual teacher centers also vary widely in the services they provide. The majority of teacher centers have been established to provide a broad spectrum of professional development services. Some centers, however, specialize either in the services they offer, or in the teachers they serve. Approximately one-third of the 74 currently-funded centers specialize in training teachers in the use of computers and related technology. Two centers are funded as principal centers and serve the professional development needs of principals in their area. Other centers serve specialized needs, such as training for math and science faculty, or vocational and special education faculty.

VIII
Summary of Staff Development Activities: 1984, 1985 and 1986

The Teacher Resource and Computer Training Center legislation specifies six purposes for teacher center activities. This section describes the staff development activities which are being provided for teachers under each of these general categories. This is not an exhaustive list, but rather a sampling from programs at various teacher centers. It is intended as a summary to illustrate the broad range of approaches being used to meet teachers' needs.

It is important to note that particular services described here are those which classroom teachers have identified as most critical in helping them improve their classroom instruction.

Statutory Purpose 1

"Assist teachers diagnose learning needs, experiment with the use of multiple instructional approaches, assess student outcomes, assess staff development needs and plans, and train other school personnel in effective pedagogical approaches."

Teachers in centers throughout the State have enthusiastically participated in a myriad of activities which relate to this statutory purpose. As teacher needs for staff development activities are assessed, most of the requests are for specific help with effective instructional approaches which will meet the needs of the children they teach. Teachers are also particularly interested in those techniques which are used and recommended by other teachers.

Teacher center personnel use a variety of approaches to bring teachers with similar instructional questions and problems together with their peers to explore successful instructional practices, to identify professional development needs which require specialized or outside help, and to reinforce their own successful instructional practices. A number of centers have organized periodic grade level or content area meetings where teachers from participating districts can get together. These sessions are carefully planned and monitored so that time and resources are used effectively. Out of these grade level and content area meetings have come requests for specific workshops or courses to deal with common instructional problems. In addition to providing teachers with instructional help, the sessions have also reportedly helped to break down feelings of isolation which teachers often experience.

Inter-classroom visitations have also been a popular innovation. At **Northern Westchester/Putnam Teacher Center**, for example, teachers may choose to visit another classroom in their own district or another district for a day, in order to view an innovative or exemplary program. Teacher visitors must show a plan indicating what aspect of instruction they would like to see and how the visit will be helpful to them. The center provides support by helping to identify exemplary classrooms which may be visited and by providing substitutes.

The quality circle approach is also used to address various instructional topics. This is a structured discussion process facilitated by trained teachers, and is extremely popular with teachers who may not wish or need to take a full course on a subject. At the **Jefferson Lewis Teacher Center**, for example, 50 teachers have been trained in the past six months to organize quality circles. Currently, 37 individual circles are meeting to discuss ideas, problems and materials. Two circles each have formed for grades K-2, one each for art, business, secondary English, foreign language, guidance, mathematics, music, physical education, reading, science 7-8 and 9-12, social studies, special education, technology, administration and school aides.

At times, participants in discussion circles identify the need for a more extensive workshop or course. Teacher center staff then arrange for courses to address identified specific needs. For instance, a number of teacher centers have given special attention to the needs of new teachers. The **St. Lawrence Valley Teacher Center** has developed a program for new teachers which features both an experienced teacher mentor for new teachers as well as periodic seminars for groups of new teachers led by experienced teachers and St. Lawrence University faculty. The **New York City Teacher Center Consortium** has instituted a monthly Saturday program for new teachers. The purpose of this program is to foster the growth of new professionals by providing a non-threatening setting where they feel free to discuss their needs, problems and futures. **Scarsdale Teachers' Institute** has also instituted a comprehensive program for all teachers new to the district.

These programs for new teachers operate in addition to the mentor teacher projects funded under the New York State Mentor Teacher Internship Program, and offer some additional models for mentor programs. Most districts with funded teacher mentor projects integrate some activities with their teacher centers in the operation of the projects.

Some of the staff development activities conducted by teacher centers which focus on effective instruction are long-term comprehensive programs. In order to supplement district-based staff development programs, certain centers have scheduled series of intensive courses or workshops designed to give teachers mastery-level skills. One such program is the "Instructional Theory Into Practice" program, a comprehensive, research-based program model which includes instructional and clinical supervision components. A number of centers have sponsored this program, including the **Southtown Teacher Center** and the **Mid East Suffolk Teacher Center**. Another program of this type is being undertaken by **Middletown Teacher Center** to supplement the district's interest in the "Outcomes Based Curriculum Project" developed in Johnson City school district.

One of the results of these long-term efforts is the development of qualified teacher trainers who are then available for training other teachers. As the concept of teachers training teachers has developed, it has become necessary for centers to provide specialized training for teacher trainers in such topics as adult learning, effective workshop presentations, effective communication and evaluation. These topics have also been part of the technical assistance sessions conducted by the Education Department program office.

One successful approach used by certain centers to improve instructional skills of classroom teachers is peer teaching. There are a number of variations of this technique, which basically involves teaming of teachers who work together to critique each other's instructional methods, identify problems, and disseminate successful practices. The teacher center role is to instruct volunteer teachers in peer teaching techniques, to facilitate their efforts, and to assist in dissemination of outcomes. **White Plains Staff Development Center** and **Scarsdale Teachers' Institute** are two centers which have developed variations of peer teaching programs.

One of the most successful and intensive efforts to assist teachers who need help with instructional techniques is the plan devised by the **New York City Teacher Center Consortium** to deliver staff development services within schools and in classrooms. In certain New York City districts, thirty-one staff specialists have been intensively trained to work directly with teachers on instructional techniques. These efforts are carried out in a number of ways, including afterschool single sessions or short-term workshops, afterschool university credit courses, supplying professional readings to teachers, meetings with districts' supervisory staff, informal discussion groups, classroom demonstrations by teacher specialists, and practice sessions for teachers in new instructional techniques. The teacher specialist also may work in a teacher's classroom, at first observing and analyzing how the teacher conducts instruction, the pupils' behavior, the instructional environment, the materials of instruction, and the organization of the curriculum. The teacher specialist then studies these data with the teacher and together they develop a plan of action which the teacher will try. The specialist may demonstrate required skills or assist the teacher's practice. The specialist is available until the teacher feels confident to conduct the class alone.

One of the most valuable outcomes of the activities related to this statutory purpose is the tapping of the vast resource of talented teachers in New York State. These activities have not only been a vehicle for identifying talented teachers, but also for training them to work with their peers, and for providing ways for teacher trainers to work directly and in non-threatening ways with those teachers who need help.

"Provide demonstration and training sites where teachers are trained, specifically in the use of computers as teaching aides; the criteria for school acquisition and use of computer equipment and software; and the evaluation of computer-related material."

Teacher Resource and Computer Training Centers throughout the State have enthusiastically instituted a wide array of professional development services in the use of computers and related technology. In addition to offering services directly, teacher centers have collaborated in a number of ways with school districts, BOCES and university technology programs in order to extend available resources and to avoid duplication. The following paragraphs contain specific information about staff development opportunities in technology which are offered statewide, described within the following general categories: computer literacy, applications and software; video technology; and telecommunications. Computer-based research and technology conferences are also described.

Computer Literacy, Applications, and Software

Computer literacy activities include an introduction to computer hardware and software, and an introduction to computer capability including word processing, use of data bases, spread sheets, graphics, telecommunications, and desk top publishing. The number of computer literacy activities across all centers in the past two years has far surpassed any other one area of staff development. Computer literacy instruction has taken the form of inservice courses, with and without inservice credit; college courses; workshops; and informal practice sessions. Computer labs also offer opportunities for teachers to update and practice skills learned in the formal sessions.

Computer application activities tend to fall into three categories: kindergarten to grade 12 curriculum integration, applications for students with specific needs, and professional utilization. Teachers have developed a keen interest in locating and using software which is specifically designed for their content area or grade level, and staff development activities have been offered by teacher centers in curriculum integration for nearly every subject content area from kindergarten through grade 12. As teachers become increasingly skillful with computers, their interest in curriculum integration is skyrocketing. Of particular interest to K-12 teachers currently are the various computer software writing programs for classroom use. Other popular areas are science, social studies, mathematics, art and music. Courses, workshops, individual classroom consultations and many other types of staff development activities are offered by teacher centers to assist teachers in the classroom applications of computer technology.

Teachers in specialized areas have also received professional development services in the use of computer technology. Courses and workshops have been conducted for special education teachers to acquaint them with both hardware use and software packages which have been specifically designed for students with handicapping conditions. **North Country Teacher Resource Center**, for example, is providing teachers with access to specialized hardware such as touch screens, speech synthesizers, and braille keyboards. Of particular interest have been the center's workshops on record keeping for teachers of students with handicaps, which include Individual Education Program (IEP) generation and scheduling.

Teachers are also interested in other professional uses to which computers may be applied. A growing number of courses are being offered throughout the State in the uses of computers for grading students, keeping attendance, and a variety of other classroom management tasks.

One of the most frequent requests from teachers is for software review and evaluation opportunities. In many instances, teacher centers provide a site where teachers may preview software before recommending it for purchase or before adopting it for use in their classrooms. Many centers also conduct workshops to help teachers evaluate software. The **Buffalo Teacher Center**, for example, has instituted a software center at State University College at Buffalo. As teachers evaluate software their comments are collected for the benefit of other teachers.

Video Technology

In increasing numbers, teachers are requesting information about the ways in which video technology can be used to improve classroom instruction. Many teachers use video cassette recorders in their classrooms and are interested in securing tapes which can be effectively integrated into the curriculum. In some instances, centers are posting and circulating information about new video tapes in the various content areas and how they can be obtained.

A number of centers have purchased video cameras and are offering workshops in the use of the video camera as an effective instructional tool. **Orleans Ni-**

agara Teacher Center, for instance, received a grant from a local cable company to train a group of teachers in the use of the video camera. Ultimately, those teachers will be filming exemplary classroom teaching activities for use in future staff development workshops on effective teaching.

There is an increasing interest in some centers in the use of video technology for distance learning purposes, particularly in rural districts. The **Sullivan County Teacher Center** is currently conducting a study to develop a long-range plan for distance learning capabilities.

Telecommunications

Teacher centers serving a number of districts in rural areas have been leaders in using telecommunications to link satellite sites and to circulate current information about professional development activities available to teachers of participating schools. The **Mid-Hudson Teacher Center**, **Nassau Teacher Resource and Computer Training Center**, and the **Jefferson Lewis Teacher Center** consortia are notable for their use of this technological innovation. The development of the statewide teacher center telecommunications network described previously in this report has heightened interest in the use of telecommunications by all types of teacher centers. A number of centers, including the **Teacher Center of Ardsley, Greenburgh and Elmsford**, are beginning to offer access to teleconferencing to teachers who wish to exchange professional ideas with other teachers in their fields throughout the State. This activity, though in its formative stages, is expected to grow steadily during the next few years.

Research

In response to teachers' increasing interest in obtaining research information, teacher centers are performing data base searches upon request. The number of available data bases is growing rapidly and centers continue to add to their centers those data base services which appropriately expand their resources.

Technology Conferences

In order to promote interest in computers and related technology, teacher centers, both individually and in cooperation with other centers in their region, sponsor technology fairs and conferences. Two examples are a regional technology conference to be held in March 1987 sponsored by the **North Country Teacher Resource Center** and a technology conference held last fall co-sponsored by several teacher centers in western New York. Also, the New York State Teacher Resource and Computer Training Centers served as a co-sponsor of the recent "Laseractive '86" conference held in Boston. Many of the teacher centers also sponsor teacher and staff attendance at the annual Learning Technology Fair and the annual conference of New York State Association of Educational Data Systems.

The emphasis on technology varies among centers, but all offer some level of programming in computers and related technology. The number of teachers requesting these services continues to grow, and it is expected that the emphasis on this statutory purpose will also grow in the next several years to meet this demand.

Statutory Purpose 3

"Develop and produce curricula and curricular materials designed to meet the educational needs of the students being served through application of educational research and new improved methods, practices and techniques."

Individual Grants to Teachers

One of the most striking aspects of teacher center programs across the State is the opportunity and encouragement given to individual teachers to write new curricula, to develop curriculum materials, to conduct research and to publish their work. There is now a sizeable body of knowledge and materials which has been developed with teacher center support, which would not have existed in its absence.

Approximately 75% of teacher centers currently offer a variety of individual competitive grant programs to teachers. These grants, commonly called "mini-grants," take a variety of forms and have been instituted for a variety of purposes.

The policy board of each teacher center offering these grants determines the purpose of the awards, the criteria for selection and the general guidelines for conducting the grant program. Requests for proposals are circulated to teachers in participating school districts on a scheduled basis, and funding determinations are made by the policy board or its designated committee.

Generally, the purposes of these grants are to provide opportunities for teachers to conduct special classroom projects, to perform some basic classroom re-

search, to duplicate research projects which have been published through such sources as the National Diffusion Network, to create new curriculum units and to prepare papers for publication and dissemination.

In some instances, the grants are designed to solicit examples of exemplary practices from teachers. In other instances, one area is defined, such as "application of technology in the classroom," and teachers are invited to submit proposals in that prescribed area. Another type of grant allows a teacher to team with a university faculty member to examine some aspect of his or her own instructional practices.

The topics covered by these mini-grants cover nearly all curriculum content areas and a variety of pedagogical approaches. In some cases they address new school situations for which no curriculum exists. One example of this is the development of supplementary curriculum materials for schools under a grant entitled "The Changing Family.....The Schools' Response," funded by the **Catskill Regional Teacher Center**. This center also funded a grant for the development of a special morning program for students. The latter program was designed by teachers and State University College at Oneonta faculty to engender a feeling of community within schools, and is now operating successfully in a number of districts.

Other topics of concern which are addressed through individual grants to teachers include: increasing learning opportunities for students, creating orderly learning environments, improving student attendance, motivating students and increasing teacher expectations. The following titles of grants awarded by the **Greater Capital Region Teacher Center** also help illustrate the range of teachers' interests and concerns:

"An Eclectic Approach to Reading at the Primary Level"
"Relaxation Techniques for Autistic Students"
"Automotive Emission Control and Computer System Curriculum — A Development Model"
"High School Diploma Program for Special Needs Students"
"Unlimited Possibilities — The Lives and Accomplishments of Handicapped Artists"
"Focus — Pocus: Framing Experiences Through Language Arts"

In some instances, special competitive grants are available to groups of teachers in a school building or district. The **Rockland Teacher Center of Haverstraw Stony Point** offered three to four competitive grants of up to $1,000 each to a school building or high school department for innovative applications of technology in the curriculum.

A number of centers have also collaborated with local libraries and other cultural institutions to produce local history units. Both teachers and students become involved with these projects which add to the resources of their communities.

The results of these grant programs are impressive. Centers require a good deal of documentation from grant recipients so that the products of their efforts can be shared with other teachers. Many centers maintain collections of these products which serve as a growing resource for all teachers. One of the current challenges for the State Education Department program office is to encourage and support the dissemination of information about materials and projects developed by teachers through these grant programs.

Each year additional centers are deciding to use the individual grant program as a means to meet the expressed staff development needs of the teachers they serve. In many ways, this individual grants approach provides the most flexibility for meeting the needs of teachers who wish to pursue individual projects. Further, the results are tangible and increase resources for all teachers.

Curriculum Development

In addition to these individual teacher grants, some centers have been responsible for developing entire curricula. For the past two years, the **North Country Teacher Resource Center** has been developing a K-12 technology curriculum for use in all the districts served by that center. Such a project is too large and expensive for any one district to undertake, but, through the efforts of the center, teachers of several districts are working collaboratively on the project.

The implementation of the Regents Action Plan has led to many requests from teachers for opportunities to develop materials to meet some of the new State requirements. Teachers at the **New Rochelle Staff Resource Center**, for example, spent a portion of the past summer preparing bilingual education materials to meet their needs in implementing the new curriculum.

"Provide training to improve the skills of teachers in order to enable such teachers to meet the special educational needs of the students they serve and to familiarize such teachers with developments in curriculum formulation and educational research, including the manner in which research can be used to improve teaching skills."

One of the important responsibilities of teacher center staff is to bring to teachers' attention current developments in curriculum and research which will be useful in the classroom. Center directors have commented that classroom teachers cannot know what they need unless they are aware of what is happening in curriculum development and research. To aid directors and policy boards in this effort, the Education Department program office includes such information in the summer training institute and other statewide meetings. In addition, center directors are urged to stay abreast of developments by attending appropriate conferences, subscribing to professional periodicals and reviewing university course offerings.

Directors and boards employ a variety of techniques to disseminate this information to the classroom teachers they serve. At some centers, the director and board schedule a workshop or a course on new curriculum developments or areas of research and encourage teachers to attend. If a sufficient number of teachers are interested in pursuing the topic in depth, subsequent sessions are then planned.

In addition to the approach described above, all centers produce periodic newsletters which often feature sections containing information on new educational materials and developments. A resource room is also a rich source of new information for teachers and is described in greater detail under "Statutory Purpose 5."

There is wide demand for workshops and courses on current social issues such as drug and alcohol abuse, teen suicide, teacher and student stress, and implications of single parent homes. Many centers have linked with appropriate State and local programs to provide such information for teachers and to conduct sessions for both teachers and parents.

Centers continually collect copies of current State curriculum guides and syllabi for use by teachers. In addition, many make arrangements with commercial publishing companies to display new curriculum materials and obtain new computer software for review by teachers. Many centers have the capacity to conduct electronic data base searches to provide teachers with up-to-date education research, and they collaborate with State and local library systems whenever possible to expand these capacities.

Through mini-grant programs, teachers may compete for center funds to support their attendance at State or national conferences in order to keep up with advancements in their fields. Successful applicants typically are required, upon their return, to conduct workshops for other teachers to share what they have gained through their attendance at a conference.

Teacher centers also hold conferences themselves, often featuring State and national curriculum and research leaders. In a number of cases, several centers in a region have cooperated to share costs which might have been prohibitive for an individual center. These conferences are usually very well attended because of the reputations of the presenters. The Annual Statewide Conference on Inservice Education, conducted by the State Education Department's teacher center program office, is another vehicle for bringing State and national research and curriculum developments to the attention of teachers and administrators.

Opportunities for teacher center directors to communicate with each other have greatly enhanced the spread of information on current research and curriculum developments among centers. There has been a tremendous amount of information shared about new materials, resources and consultants which centers have found effective. This exchange of information will be further strengthened by the statewide telecommunications system being developed for use by teacher centers.

An outstanding example of one center's response to assist teachers in meeting the special educational needs of the students they serve is the **Jefferson Lewis Teacher Center's** response to the expansion of the military installation at Fort Drum. This center has been actively involved in providing activities to meet the unique needs of teachers in the area who are facing the influx of 5,000 new students from families representing a wide variety of cultures, quite different from the existing, somewhat homogeneous student body. In addition to inviting a Fort Drum official to sit on its policy board, the center has initiated the development of a curriculum guide for teachers in grades K-8 to assist them in preparing the local student population for the large number of new and culturally different students expected. In addition, instructional units prepared on the history of Fort Drum are currently being used by many schools in the area. In collaboration with St. Lawrence University, the center also designed a 45 hour,

multi-cultural human relations training session covering skills teachers will need in dealing with the new students. Specialized training programs also were developed by the center for approximately 300 substitute teachers. Many additional center activities have grown out of the Fort Drum expansion and plans for new activities are underway as the army personnel arrive.

Staff development activities designed to assist teachers to meet the special educational needs of their students vary in number and content among the centers. Many workshops and courses are offered to assist teachers who work with gifted and talented students. The **Cayuga Onondaga Teacher Center**, for example, offers a comprehensive program of workshops and curricula for teachers of the gifted and talented. Staff development also includes activities for teachers who work with children with handicapping conditions. A number of these requests are filled in cooperation with Special Education Training Resource Center trainers.

Statutory Purpose 5

"Provide a location where teachers may share resources, ideas, methods and approaches directly related to classroom instruction and become familiar with current teaching materials and products for use in their classrooms."

According to teacher reports, one of the most appealing features of the teacher center program is having access to a location which provides resources of many kinds and which allows for professional dialogue with colleagues. Teacher visitors to a center enjoy a feeling of collegiality and a sense of ownership that is undoubtedly enhanced by the fact that most centers are administered by teachers.

Drop-In Centers

In those centers described previously in this document as "drop-in" centers, a variety of materials and services are available in a central location. Most centers of this type maintain professional libraries where teachers may read current professional journals, books, and newspapers. These libraries typically are furnished through State grant funds, district contributions and teacher donations. Teacher-prepared curriculum materials are also catalogued and made available to other teachers. Teacher center personnel also collect and make available to teachers State syllabi and curriculum guides, certification information and college catalogues for those who wish to pursue further study. A number of State agencies and cultural institutions regularly mail announcements, materials and other resources to the teacher centers.

Teachers in some centers have access to computers for use in searching State and national data bases for information, practicing computer skills, and reviewing new software. Other equipment which is typically available to enable teachers to develop their own curricular materials includes copy machines, laminating equipment, video cameras, video cassette recorders, and letter production machines.

A popular use of center facilities is to hold grade level and subject area meetings. In many instances teachers from a number of districts are able to meet to exchange ideas and learn about new curricula and instructional techniques. Teachers report that these opportunities help to break down the sense of isolation they sometimes feel.

Individual consultations are also available at teacher centers. Teachers call or visit a center with their professional questions and are advised by center staff. Being teachers themselves, staff have particular credibility among their peers. Activity logs kept by centers show that throughout the State there has been a dramatic increase in the number of teachers who take advantage of this opportunity.

Outreach Centers

Consortium centers, particularly those spread across wide geographic areas, present a challenge for providing teachers access to resources and services. This type of center typically operates as an "outreach" center, maintaining a central site and also establishing satellite sites at strategic locations to afford more ready access to its teachers.

Another solution in providing better access to teacher center resources has been the transporting of services and resources to outlying schools. The **Wayne Finger Lakes Teacher Resource Center**, as one example, has outfitted two school buses with technological equipment and driver/instructors who visit participating school districts on a regular schedule.

The use of teacher centers as physical resources for teachers is growing rapidly, regardless of the model after which it is patterned. Efforts are being made to collaborate with existing libraries, district facilities and State resource centers whenever possible to expand teacher center resources and to avoid duplication of effort.

"Retrain teachers and other education personnel to become better qualified to teach in subject areas necessary to prepare students for the developing high technology era in the disciplines of mathematics, science and computer technology."

The previous discussion under "Statutory Purpose 2" contains descriptions of the ways in which teacher centers are meeting professional development needs in computer technology. Therefore, the information which follows will be confined to a report on activities in mathematics and science.

Through the needs assessment process which all centers are required to conduct, requests by teachers for upgrading their skills in mathematics and science receive full consideration by policy boards. Thus, most teacher centers offer activities specifically for mathematics and science teachers. There are, in addition, certain centers where there has been a particularly strong focus on mathematics and science staff development programs. One of the centers most notable for its mathematics and science emphasis is **The Teacher Center at State University College at Purchase**. The Center is an affiliate of SUC Purchase — Westchester School Partnership, which is a collaborative effort of industry (American Can Company and IBM), fifteen school districts, and higher education, whose mission is to strengthen mathematics and science teaching in the region. The objectives of that teacher center include: training 75 teacher specialists in science and mathematics as peer trainers to work with teachers of kindergarten through grade six, in participating districts, providing them with hands-on experience with science materials and lessons which correlate with the New York State K-6 science syllabus; assisting teachers in developing mathematics lessons which are integrated into the science instruction units; developing joint programs and courses with the Division of Natural Sciences at SUC Purchase; encouraging college students to investigate teaching careers in mathematics and science; awarding individual grants to teachers to update their teaching skills; and convening conferences on mathematics and science topics for elementary and secondary school teachers in the area. This center also infuses the application of technology into its mathematics and science staff development activities. Staff conducting these activities are drawn from participating school districts and SUC Purchase.

Beginning during the 1985-86 school year and continuing this year, the **Syracuse Teacher Center** is providing opportunities for seven science teachers to participate in a program titled "Frontiers of Science." This program is designed to provide participants the opportunity to conduct science experiments using the latest laboratory equipment, assisted by science professors at Syracuse University. After their training is completed, these teachers will then conduct workshops and courses for their peers. Also through the center's efforts, an additional seven teachers received four year scholarships from the National Science Foundation to study at Syracuse University to become mathematics and science teachers.

One of the major goals of the **Rockland Teacher Center at Haverstraw Stony Point** is to provide opportunities for career development and retraining, particularly in science and mathematics. For example, a mathematics certification program was instituted through the City College of New York which enrolled twenty-five teachers in advanced mathematics and eighteen in beginning mathematics. Twenty-five teachers eligible for certification will graduate in June 1987. A similar science certification program has also been instituted through the City College of New York, with ten teachers enrolled during 1985-86. The **Rockland Teacher Center** also cooperated with the county in placing nine mathematics and science teachers in jobs in local business and industry during the summer. The **Rockland Teacher Center** cooperated with the **East Ramapo Teacher Center**, the **Nyack Staff Development Center** and Orange and Rockland Utilities Inc. in a county-wide student energy exhibition. Ninety-five teachers participated in nominating the 125 student projects which were exhibited.

Programs which award individual grants to teachers, described in detail under "Statutory Purpose 3," have been used by several centers to help teachers become better qualified to teach mathematics and science. Projects in mathematics, science and computer technology developed by teachers of **The Teacher Center of Broome-Tioga Counties** provide some interesting examples of the use of these grants. Recent project titles include:

"Science Laboratory Computer Interfacing"
"A Summer Freshwater Biology Program"
"Logo for First Grade, Made Easy for Students and Teachers"
"Robotics in the Classroom"
"Senior Science Seminar"
"Haley's Comet Teaching Package"
"Solving the Problems with Word Problems"

To encourage all teacher centers to focus more effort on staff development activities in mathematics and science, outstanding programs are highlighted at statewide conferences and technical assistance workshops sponsored by the Education Department program office.

IX
Linkages

Teacher centers have developed successful linkages with colleges, business and industry and other organizations. These associations have contributed to the stability of the centers and have amplified the resources they are able to bring to the teachers they serve.

The importance of establishing these linkages is reflected in the teacher center legislation, which requires that teacher center policy boards be representative of groups which have an interest in the center and which can contribute to its programs. In addition to policy board membership, the Department requires that each teacher center establish cooperative relationships with various groups, higher education and business and industry in particular. Some ways in which teacher centers have developed these linkages are described below.

Linkages with Participating Schools

The closest linkages teacher centers have are with their participating schools. This relationship, particularly with respect to the coordination of staff development services each offers, is a mutually beneficial one. By law, teacher center activities must supplement, but not supplant, district staff development programs. Teacher centers and schools have developed a variety of approaches to the coordination of their services to the benefit of the teachers they serve.

For example, districts connected with some centers have appropriated a portion of their staff development budgets for activities designed and conducted by the centers. In one instance, the teacher center and its cooperating district have agreed that staff development needs which should be addressed on a long-term basis will be the responsibility of the district, while immediate short-term professional development needs will be met by programs designed by the center. Teacher center services also complement district programs by providing support and assistance to teachers on an individual basis.

In these ways, both the centers and the school districts are able to offer more extensive services to teachers than either could provide individually.

Linkages with Higher Education Institutions

Beyond the representation of higher education institutions on teacher center boards, many innovative and mutually beneficial linkages have developed between teacher centers and area colleges and universities.

Many centers have developed agreements with local colleges. These sometimes involve the development of graduate level courses to address the particular needs of the teachers, the scheduling of college courses at teacher centers or other off-campus sites convenient to teachers, or a reduction in tuition or fees for teachers enrolling through their centers.

At several centers, college faculty and teachers team-teach inservice and graduate courses. At others, college faculty and teacher teams engage in joint research. For example, the **Catskill Regional Teacher Center** has awarded mini-grants to faculty and teacher teams to conduct interactive research pro-

jects focused on elementary and secondary classroom needs.

Five teacher centers and one principal center are housed on college campuses: the **Buffalo Teacher Center** at the State University College at Buffalo, the **Catskill Regional Teacher Center** at the State University College at Oneonta, the **Chautauqua County Teacher Center** at the State University College at Fredonia, the **North Country Teacher Resource Center** at the State University College at Plattsburgh, the **Teacher Center at the State University College at Purchase** and the **Long Island Principal Center** at Long Island University, C.W. Post Campus. This affords these centers opportunities for close collaboration with teacher education, computer technology and other college programs.

Two other centers, the **West Genesee/Syracuse University Teaching Center** and the **Jamesville DeWitt/Syracuse University Teaching Center** cooperate with the University in providing integrated programs for teachers, from pre-service education for student teachers to inservice education for all teachers in the districts. Also, the **Jefferson Lewis Teacher Center** is cooperating with State University College at Potsdam and the **St. Lawrence Valley Teacher Center** is cooperating with St. Lawrence University in beginning teacher programs to ease the transition from pre-service training to first-year teaching.

This is not an exhaustive list of the relationships which have been formed with higher education institutions. They are, however, examples which illustrate the range of cooperative ventures which have proven beneficial to all involved.

Linkages with Business and Industry

Business and industry is also represented on each center's policy board. Just as with higher education institutions, linkages with business and industry have developed far beyond board membership to benefit both the teacher center and the cooperating businesses. In some cases, teacher center directors reciprocate by serving on the Private Industry Council or other boards or advisory bodies in their communities.

Because of the emphasis given to computer training in many teacher centers, a large number of cooperating businesses either are computer manufacturers or retailers, or use computer equipment and software extensively. But teacher centers have associated with other types of organizations too, either because the staff development focus of the particular teacher center is on something other than computer training, or because of the types of business and industry located in its geographic area. Utility companies, banks, hotels, radio and television stations, hospitals, police departments, insurance companies, newspapers, and publishing houses are a few of the organizations which have become involved with teacher centers. The cooperation of local chambers of commerce has also proven to be valuable in drawing upon the community's many resources.

The types of cooperative ventures which have been undertaken are as varied as the organizations. Many teachers attend workshops, seminars and training courses conducted by local companies, particularly in the field of computer technology. Companies also regularly serve as consultants to teacher centers. Business and industry are active in co-sponsoring or participating in various types of conferences, technology fairs and seminars. Several donate computers and other equipment, as well as supplies and recyclable materials to centers for use by their teachers. Some have provided sites for teachers to use and evaluate software. Others have joined teacher center staff in curriculum development projects. Still others have awarded grants directly to individual teachers for special projects, and some operate special summer employment programs for teachers. Many organizations are generous in making their facilities available for teacher tours and student field trips and in providing speakers to schools.

The following are just a few examples of the diverse and creative relationships which have been established:

- During one year of its operation, the **Teacher Center at SUC Purchase** received funds from the American Can Company to underwrite the director's salary.
- The **Cayuga Onondaga Teacher Center** and Computer Solutions Corporation of Ithaca jointly sponsored a series of micro-computer workshops to educate area teachers in the use of computers in the classroom.
- Central Hudson Gas and Electric Company has provided artists' services and funding for the production of some of the **Mid-Hudson Teacher Center's** brochures and posters.
- Marine Midland Bank in Buffalo periodically do-

nates office equipment and supplies to the **Buffalo Teacher Center** for use by its teachers.

- The **Inter County Teacher Center** and New York Institute of Technology are piloting a cooperative venture with an Australian firm, Computing 000 Corporation, titled "Starlink." The "Starlink" project is using satellite and computer technology to connect teachers and students in a Glen Cove elementary school directly with their peers in Australia, in an attempt to increase sharing and understanding between cultures.

The result of the linkages formed thus far between teacher centers and business and industry have been gratifying. The Education Department encourages and expects these commitments to grow as the centers develop and expand their services to teachers. Their collective experience will surely benefit new centers as they are established in coming years, for much of the ground work has already been laid and much good will has already been established for the Teacher Resource and Computer Training Center program.

Linkages with the State Education Department

The program office responsible for administering the teacher center program works continually with other offices within the Education Department to make a variety of support services available to every teacher center.

For instance, the Department's Center for Learning Technologies has been cooperating with the program office in the telecommunications pilot project recently undertaken. It serves in a technical assistance capacity and works directly with centers. Interested centers have also been included in a variety of other technology training opportunities offered through the Center for Learning Technologies.

The teacher center program office is also working with the Department's Office of Elementary and Secondary Planning and Support Services to permit crosscommunication between the teacher center telecommunications network and "Dialogue 2000," a network whose participants include most Education Department program offices and many teachers across the State.

The Office of Education of Children with Handicapping Conditions has joined the teacher center program office to coordinate services in areas where Teacher Resource and Computer Training Centers and Special Education Training Resource Centers co-exist. This avoids duplication of effort and promotes cooperative services to the special education teachers.

Involvement with the various curriculum offices in the Department is growing rapidly. Presentations at teacher center meetings and information mailings to teacher centers have proven to be effective vehicles for informing teachers of recent curriculum innovations and State syllabi requirements. Teachers have shown a particular interest in information to help them institute the changes required by the Regents Action Plan.

X
Evaluation Process

Evaluation is a critical component of the teacher center program both at the level of individual centers and at the level of the statewide administration of the program.

As part of its application for funding, each center is required to describe the evaluation system it will use to enable it to gauge the success of its programs in meeting teacher needs, to adjust its programs as necessary and to plan future activities. The results of these ongoing evaluations are reported in interim and year-end reports submitted to the Department's program office, as well as in the required annual evaluation summary.

Teacher centers are also required to engage in in-depth evaluation of their overall effectiveness in terms of the missions and goals set by their policy boards. An important aspect of this evaluation is determining the impact of a center's programs both on teachers and, ultimately, on learning in the classroom. Currently, the Department requires the policy board of each teacher center to conduct an annual self-study. The self-study addresses the following major topics:

1. The extent to which teachers' needs are adequately surveyed.
2. The extent to which activities are being carried out in accordance with the proposed plan.
3. The extent to which activities actually meet the expressed needs of teachers.
4. The extent to which teacher participants are acquiring intended knowledge and skills.
5. The presence and quality of a follow-up support system to facilitate classroom application of knowledge and skills gained by teachers.
6. The extent to which the center's activities result in changes in classroom instruction and services.
7. The extent to which the center's exemplary activities are being appropriately documented and circulated.
8. The extent to which center operations are integrated with district and State programs.
9. In the case of consortia, the extent to which all participating school districts are being equitably served.
10. The extent to which the policy board is functioning according to the legislative intent.
11. The extent to which the center is being effectively managed.

The Department requests that each center submit a specific plan to address any deficiencies identified in its self-study. As the Teacher Resource and Computer Training Center program in New York State matures, the requirements for this type of documentation and evaluation will continue to increase.

The Department's evaluation of the Teacher Resource and Computer Training Center program statewide includes assessment of individual centers' progress toward achieving their stated goals, as well as evaluation of the Department's overall administration of the program.

The periodic reporting requirements and monitoring process described previously in this report allow the Department to determine the quality of services being provided by a center to its teachers and the appropriateness of the use of State grant funds. When additional resources for making on-site visits to centers become available, the Department's evaluation capabilities will be greatly strengthened.

Further, the Department's evaluation responsibilities include an assessment of the overall success of the centers statewide in complying with the statutory purposes as set by the Legislature, and the program's success in serving the needs of the State's teachers.

To supplement the Department's own documentation and assessment of the impact of the teacher center

program, an outside consultant was engaged during the current fiscal year to evaluate the statewide teacher center program. The evaluator and his associates visited a sampling of the 57 centers in operation by fiscal year 1985-86, with the following purposes: to describe the services, facilities, activities and programs offered by the centers; to identify the nature and extent of teacher centers' influence on teachers' professional growth; to assess the impact of teacher center programs on district staff development efforts; and to make recommendations for improvement in the administration of the program statewide. The principal findings of this external evaluation will be discussed in the following section of this report.

XI
Impact

Now in its third year of operation, the Teacher Resource and Computer Training Center program has had a significant impact on the nature of staff development in New York State and on the number and types of staff development services available to the State's teachers. This conclusion is based on the results of the external evaluation study described in the previous section and on Department staff's assessment of the development of the program over three years.

The impact of the teacher center program is described here in terms of the following four categories: expanded professional development services and resources, teacher roles and attitudes, coordination with district staff development, and effects on classroom learning.

Expanded Professional Development Services and Resources

Perhaps the most notable outcome of the Teacher Resource and Computer Training Center program is the significant increase in the number and variety of professional development services which are now available to teachers throughout the State.

The many services and activities offered by teacher centers are discussed in detail in Section VIII of this report, "Summary of Staff Development Activities: 1984, 1985, and 1986." Their significance, however, does not lie in number and variety alone. Teacher centers have developed services to which teachers have easy access and which expand teachers' professional development options in other ways as well.

The statewide evaluation report summarizes some of these, stating that one advantage of teacher center-sponsored staff development "mentioned by teachers .....is cost. In general the availability of outside funding means that center-sponsored programs are less expensive than similar programs offered through other mechanisms." The report goes on to state that teacher center programs offer flexibility in program scheduling, an important consideration to busy teachers.

Most importantly, the expanded services made available are specifically tailored to teachers' needs and are often designed by the teachers themselves. The evaluation report states that ".....the variety of staff development offerings tended to increase dramatically when teachers took an active part in their planning, and in hiring those who would serve as workshop and seminar leaders."

The number and types of professional activities for teachers continue to grow as center programs expand and as new centers are established. As they do, it is important that they continue to offer the same flexibility and range of options that are currently afforded teachers.

Teacher Roles and Attitudes

The Teacher Resource and Computer Training Center program in New York State is based on a teacher-centered philosophy. The program's impact on teachers' attitudes about their own professional development and on the roles teachers play in this process is, therefore, of primary importance.

A major effect of the teacher center program is the positive attitude teachers have developed toward their centers and the services they provide. After conducting over 400 interviews with teachers, the external evaluation team's principal finding is that "New York State teacher centers are almost universally perceived by the teachers as having an important and positive role to play in helping them meet their responsibilities in the schools of the State of New York....The evaluation team found nearly universal endorsement and virtually no serious criticisms of either the concept of teacher centers or of the reality of these centers as teachers had experienced them."

The report goes on to state that virtually all teachers served by teacher centers are enthusiastic supporters in that they view the centers as being "owned" by them, under their control and sensitive to their needs. This finding echoes the strong teacher support witnessed by Education Department staff over these first years of the program.

The responsiveness to teacher-expressed needs on the part of teacher centers is assured in several ways. Most importantly, the governance structure of centers required by the teacher center legislation provides teachers with a majority voice in the operation of the center. Also, the Department requires every center to have a rigorous needs assessment process to guarantee responsiveness to teachers' needs in the development of their staff development programs. It has also been found that teacher center directors, many of whom are teachers, provide strong and committed leadership in staff development.

In addition to this increased feeling of ownership, there is for many teachers a decreased feeling of isolation from their colleagues. Teacher centers serve to bring teachers together by providing them opportunities to consult with their peers on a non-evaluative basis, to share resources and ideas, to discuss common problems and to learn from each other's experiences.

A related benefit of the teacher center program is the creation of new professional roles for teachers. Membership on center boards provides teachers with the opportunity to design programs to aid their own professional development. Further, participation in center programs allows teachers to assume new roles. Teacher centers rely upon the expertise of their own teaching staff to conduct center programs whenever possible. Teachers may teach inservice courses, team with college professors in a team-teaching approach, act as peer tutors or in-house consultants to other teachers, engage in applied classroom research, or develop curriculum materials which are made available for use by their colleagues. Some teacher centers also provide support for teachers to make presentations at professional organization meetings and conferences.

The impact of teacher centers has also been felt in the large number of cooperative relationships which have developed with school administration, area colleges, parent and community groups and local business and industry. Opportunities for collaborative ventures exist where they did not exist before, and the program has provided a structure which has aided the dialogue between teachers and administrators on topics of mutual interest and concern.

These new roles afforded teachers, both in center governance and programming, support the "professionalization" of teaching and enhance the status of teachers in the eyes of their colleagues and their communities.

Coordination with District Staff Development Programs

Teacher Resource and Computer Training Centers exist to supplement, rather than supplant, district staff development programs. In this way, they have had some rather profound effects on districts' programs and the resulting services to their teachers.

The teacher center presence has affected the manner in which many school districts plan staff development programs. Teacher centers are required to conduct comprehensive needs assessment for the purpose of program planning, and participating districts often share results of these assessments in order to set their own program priorities. For example, if needs assessment data reveal that a large number of teachers are interested in a comprehensive instructional program such as the "Instructional Theory Into Practice" program, the district may then take the responsibility for adopting the program for the district. Many times, the needs assessment process is a collaborative undertaking, utilizing both district and teacher center resources.

Participating districts, in turn, have enriched teacher center programs. In many places, school districts grant inservice salary credit for teacher center courses and workshops which meet the districts' criteria. The many types of inkind support which districts give to centers contribute significantly to the extent and im-

pact of teacher center programming. Because of the Education Department's requirement that teacher centers receive this in-kind support as indication of the districts' commitment to the centers, districts with more limited staff development programs tend to allocate more resources to staff development than they might have done in the absence of such centers.

Another positive result of this collaborative approach is a better understanding by teachers of a district's staff development efforts and priorities. In many cases, teachers are asked to provide input. In turn, district administrators develop a better understanding of teachers' views, which tends to strengthen district staff development efforts.

Certainly, teacher centers have been a central focus in highlighting the importance of staff development across the State and in increasing teachers' involvement in the many programs available. Center directors have become very skillful in assessing teachers' needs, advertising offerings and motivating teachers to attend center activities. Many teacher centers publicize district staff development activities along with their own, thereby increasing teacher attendance at all staff development activities.

Effective models for teacher center and school staff working together to strengthen teaching continue to emerge. The importance of this cooperation and coordination cannot be stressed too heavily. The external evaluation report states that the differences among centers in what they have to offer teachers is dramatic, "seemingly depending mostly on whether there is a climate of good will between teachers and local administrators."

Effects on Classroom Learning

Perhaps the question most central to the impact of teacher centers is whether their services to teachers are, in fact, producing desirable effects on student learning. However, the teacher center program in New York State has not been in operation long enough to gather conclusive results on its effects on classroom learning, an observation that is echoed in the external evaluation report. The major focus of evaluation efforts thus far has been on the effects of the program on teachers, who are the direct beneficiaries of teacher center activities. Never the less, there are some initial indications that teacher center programs have affected classroom learning.

Certainly, the reports of teachers on the direct positive effects of teacher centers on their skills, attitudes and the resources at hand can be construed to indicate a favorable effect on students. One of these direct effects has been the development and use of new curricula and curriculum materials described in this report. In many cases, teachers have used this opportunity to better prepare themselves to implement the requirements of the Regents Action Plan.

A second significant finding which bears reporting is the increased use of computers and other technology by teachers in classrooms. Administrators and supervisors in school districts who participate in teacher center activities report that there has been a very significant increase in teacher classroom use and requests for computer hardware and software and other technological equipment. It is also reported that these teachers seem to know a great deal about available equipment and products which are suitable for their grade level or specialization.

Some centers, including the **New York City Teacher Center Consortium**, have begun this kind of systematic evaluation. One finding of an external evaluation carried on by the **New York City Teacher Center Consortium** is that, in New York City, as a result of the intensive work with program specialists, significant numbers of elementary and secondary teachers reported that they were better able to use a variety of instructional strategies to meet the needs of their students. Program specialists were able to report that teachers did use these new strategies effectively in their classrooms. It can be concluded, then, that elementary and secondary students do have the direct benefit of a variety of instructional techniques which teachers use. Through the use of several intensive case studies, the center's research plan for the upcoming year will identify direct causal relationships where possible.

There are undoubtedly many more positive effects of teacher center programming on students than those reported here. The statewide external evaluation report recommends that "the central question concerning student effects...receive special and systematic attention in evaluation efforts in the near future." The Education Department will be working with all centers in the upcoming year to systematically study and document effects on classroom learning.

XII
Statewide Planning Implications

The rapid growth of the Teacher Resource and Computer Training Center program during its first two and one half years, the increasing sophistication of the professional development programs offered by maturing centers, and the ever-increasing demands for teacher center services throughout the State present a variety of competing priorities for the administration of the program. Currently, emphasis is being given to the nine priorities listed below:

1 —Give special consideration to the establishment of teacher centers in underserved areas of the State.

Currently, teacher centers serve 569 of the 768 school districts and boards of cooperative educational services in New York State. While there are, of course, unserved districts spread through all areas of the State, certain areas are particularly underserved, as indicated by Table 6 below. For those counties listed, the percentage of school districts within the counties which are not currently being served by a teacher center is given.

Table 6

County	Percentage of Districts Not Served
Cortland	100%
Livingston	100%
Wyoming	100%
Cattaraugus	93%
Orange	88%
Allegany	86%
Monroe	77%
Genesee	75%
Tompkins	71%
Erie	58%
Oneida	56%
Rockland	55%
Putnam	50%
Hamilton	42%
Steuben	41%
Nassau	39%
Suffolk	25%
Westchester	23%
Lewis	20%
Seneca	20%
Oswego	11%
Chautauqua	10%

The Department is giving particular attention to encouraging applications from underserved areas and will continue to take regional considerations into account in making funding recommendations.

2 —Increase services to teachers through the creation of new centers and the expansion of current centers.

While the legislative appropriation has increased from $3.5 million to $10 million in just three fiscal years, the demand for teacher center services is increasing and continues to outstrip the available resources. Within individual centers, it has been found that teacher involvement increases with the age of the center. Existing centers are, therefore, experiencing growing interest and demands from their constituencies. Several teacher centers, single district and consortium centers alike, have attracted the interest of neighboring districts, some of which have joined as full participants. Similarly, this increased interest and demand for services among members of the larger consortia have, in a few instances, resulted in participating schools splitting from a consortium to form their own, more locally-responsive centers.

It is expected that these trends will continue. The Department will play an increasingly active role in centers' attempts to determine the optimal size for serving their teachers, supported with appropriate levels of funding. This support entails a commitment to fund new centers as well as increase support to existing centers with expanded teacher populations.

3 —Improve dissemination of information about successful programs throughout the State.

Individual centers have been quite successful in distributing information within their own districts and to their own communities. However, statewide dissemination to date has been limited. In order to provide information on the New York State's Teacher Resource and Computer Training Center program, a variety of publications are planned, including:

- a program brochure describing the program and its unique features,
- a directory of teacher centers including identifying information and a description of the major activities of each center,
- a compilation of successful practices of teacher centers throughout the State, and
- a file of center-developed resources.

The Education Department's program office receives numerous requests for this type of information. In order to increase the program's visibility throughout the State and to realize the full benefits of the Teacher Resource and Computer Training Center program, this effort needs to be given high priority in the near future.

4 —Institute regular on-site monitoring and technical assistance visits to all teacher centers as resources become available.

A fully comprehensive monitoring system, described previously in this document, has been developed to ensure that each teacher resource and computer training center is in compliance with the statute and that each center is operating in accordance with its own program goals and objectives. The off-site components of that system are currently operating but the absence of resources for additional staff and travel has precluded on-site visits to centers. In response to the external evaluation team's questions about the statewide administration of the teacher center program, teacher center personnel have indicated that the lack of on-site visits for technical assistance and feedback was a serious weakness in the State's administration of the program. It will be important in the near future to explore ways to visit centers at least once each fiscal year.

5 —Encourage long-range planning by teacher centers.

The upcoming fiscal year, 1987-88, marks the beginning of a multiple-year planning process for use by established Teacher Resource and Computer Training Centers.

Multiple-year planning recognizes that those teacher centers which have established programs and which have achieved a record of service to teachers should continue to receive grant support under the Teacher Resource and Computer Training Center legislation. Once a teacher center's multiple-year plan is accepted, it is assured support for the next three years. However, continued support is contingent upon, first, the Legislature reappropriating funds each year for the Teacher Resource and Computer Training Center program and, second, a teacher center maintaining the quality of its services and maintaining compliance with all program requirements as established by the Commissioner of Education.

Teacher centers are being encouraged to use long-range planning to build stability within centers and to emphasize a comprehensive approach to meeting teachers' needs, which sometimes may require a multi-phase approach over two or more years. All continuing teacher centers (those funded during the previous fiscal year) are eligible to submit a multiple-year application. Once a teacher center's multiple-year application is accepted, it will be used as a work plan to guide the center's activities throughout the current year and beyond.

6 —Expand technical assistance to centers, including the expansion of the teacher center telecommunications network and the development of a handbook for center operation.

The telecommunications system described previously in this document was designed and implemented for use by Education Department program staff and teacher center staff for more efficient conduct of the statewide program. It should prove to be a valuable vehicle for providing expanded technical assistance to centers. During this first year, staff of at least twenty centers have been trained to use the system. Ultimately it is expected that all centers will participate.

The initial use of the system has been for communications. The system is used to provide information on such topics as teacher center legislation, available human and material resources, directories, technical aspects of center operation, news on technological developments, announcements of meetings and conferences, and fiscal operations. The system will be expanded with the cooperation of other offices of the Education Department to further develop the system's teleconferencing capacity. Teacher use of the system for conferencing and research will also be encouraged.

Development of a handbook describing essential elements of Teacher Resource and Computer Training Center operation is currently underway. The handbook will be developed jointly with experienced teacher center personnel. When completed, this handbook should prove to be an invaluable resource to supple-

ment the person-to-person assistance given by Department staff. Priority will be given to this task when additional staff resources become available.

7 —Assist teacher centers in the systematic assessment of the effects of center programs on classroom learning.

The two underlying tenets of the Teacher Resource and Computer Training Center program in New York State are that the professional development services teacher centers provide should be those which teachers themselves have determined they need, and that these services should be those which will enable teachers to do a better job in the classroom. Therefore, it is crucial to evaluate not only the effects teacher center services have on teachers, but also the indirect effects of these services on classroom learning.

The program is now in its third year of operation and centers are exhibiting increasing sophistication in evaluating the impact of their services on teachers. At this point, the Department is beginning to address the more difficult question of the effect of teacher center programs on classroom learning. All existing teacher centers will be required to include in their application for 1987-88 funding a description of their plans to address this issue. The Department will assist centers in this process both on an individual basis and through group training and technical assistance sessions. Evaluation of the effects of teacher center programs on classrooms learning will also be emphasized in future evaluations of the statewide program.

8 —Enhance the cooperative relationship between teacher centers and their participating school districts.

Teacher Resource and Computer Training Centers were instituted, on the one hand, to supplement the existing staff development activities of participating school districts, and on the other hand, to respond to the expressed needs of individual teachers. In order to best accomplish these two charges, it is essential for teacher centers to establish and maintain an effective working relationship with their participating school district personnel. The Education Department program office recommends that a senior administrator of a participating school district serve on the center's policy board to keep lines of communication open. Teacher center directors also meet periodically with district staff to keep them informed about the center's activities. However, greater attention needs to be given to providing guidance to centers in order to ease the infusion of the teacher center program into ongoing school district operation. Further, consortium centers need additional help in achieving an appropriate balance in their programs so that the needs of each participating school district are met.

9 —Respond to the needs of individual teacher centers in center management and program planning.

As many classroom teachers take positions as teacher center directors or policy board members, they are immediately confronted with their own lack of skill and experience in center and program management. Assistance is provided through the statewide training institutes and meetings as well as the regional network sessions, but many directors have reported to both the statewide external evaluator and Education Department program staff that much more help is needed by directors and policy board members alike. Since these are new roles for teachers and since they are critical to effective operation of teacher centers, any resources which become available will be used for on-site technical assistance by the Education Department.

. . . . . .

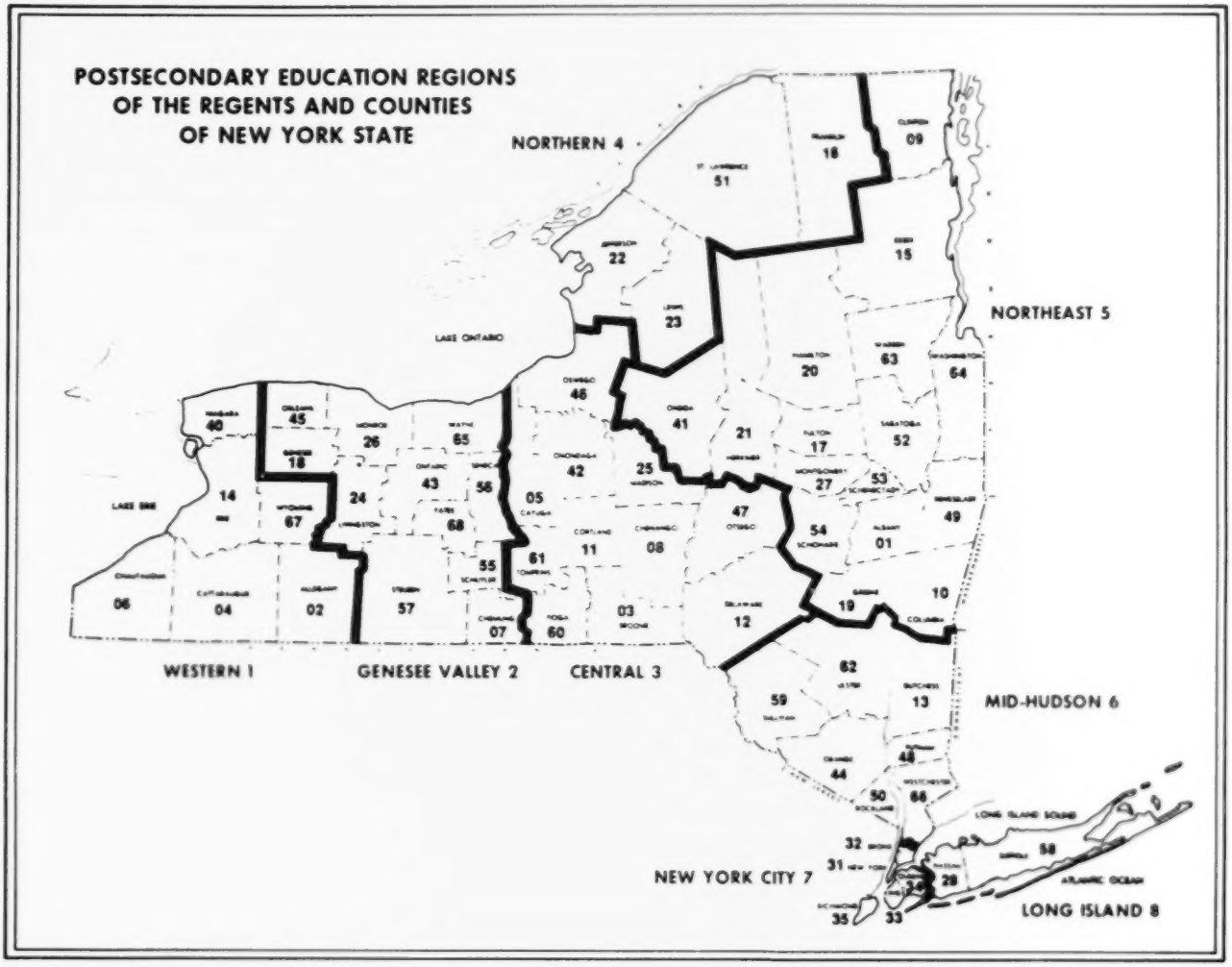
Since the inception of the Teacher Resource and Computer Training Center program in 1984, seventy-four centers have been established and are now in full operation. All six statutory purposes are being addressed by the centers through a variety of outstanding professional development activities. Thousands of teachers have testified to the impact that teacher programs have had on their professional lives. School districts have benefited from the expanded resources which teacher centers have provided, and there is early evidence that the program has had an impact on elementary and secondary classrooms.

Interest in the teacher center program continues to grow at a pace which exceeds the legislative appropriation. It is expected that existing centers will continue to expand their programs to meet the increased demand for their services and that new centers will be established to serve the thousands of teachers in the State still without access to a teacher center.

The contribution of teacher centers to the professionalization of teaching is significant and their potential for influencing education in New York State is enormous.

XIII
Appendices

APPENDIX A



APPENDIX B

History of Funding for New York State
Teacher Resource and Computer Training Centers
Fiscal Years 1984-85, 1985-86 and 1986-87

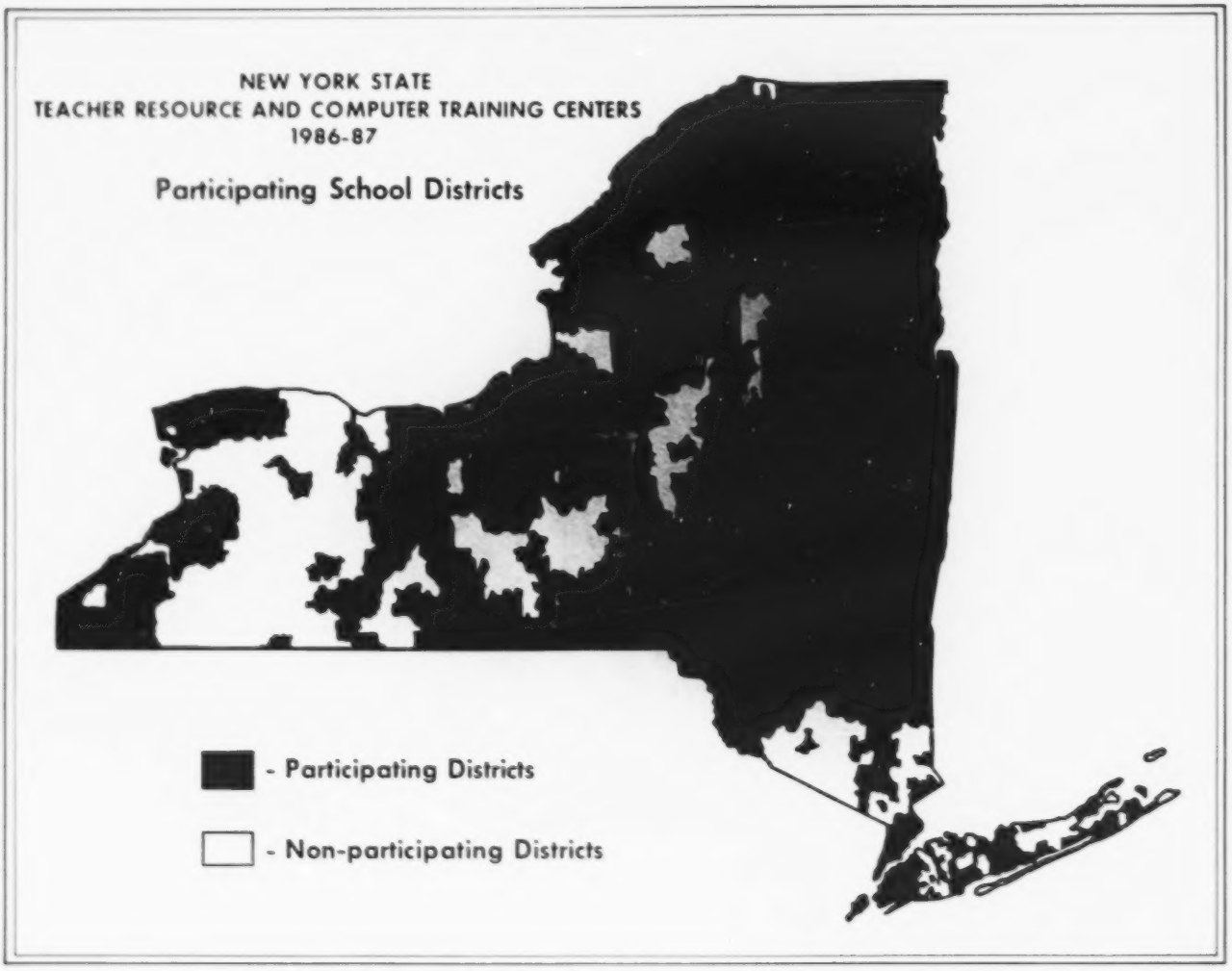
Name of Center	State Funding 1984	State Funding 1985	State Funding 1986
Ardsley Greenburgh Elmsford	$ 115,000	$ 125,000	$ 140,000
Bedford	0	0	70,000
BOCES/CHHOP	0	0	70,000
Brighton	0	0	65,000
Bronxville	0	0	40,000
Broome & Tioga Counties	100,000	150,000	185,000
Buffalo	500,000	525,000	600,000
Catskill Regional	110,000	130,000	210,000
Cayuga Onondaga	40,000	80,000	160,000
Central New York	40,000	100,000	190,000
Chautauqua County	0	0	100,000
Connetquot	0	0	70,000
Dryden	0	40,000	60,000
East Meadow	0	0	70,000
East Ramapo	100,000	140,000	165,000
Endicott	50,000	60,000	75,000
Erie Catt	0	100,000	160,000
Genesee Region	0	0	100,000
Greater Capital Region	200,000	300,000	440,000
Herricks Consortium	0	0	70,000
Inter County	20,000	30,000	135,000
Islips	20,000	55,000	85,000
Jamesville DeWitt	20,000	23,000	60,000
Jefferson Lewis	20,000	150,000	210,000
Levittown	0	55,000	80,000
Long Island	30,000	55,000	100,000
Mamaroneck	20,000	30,000	70,000
Manhasset	0	0	50,000
Massapequa	0	0	70,000

Name of Center	State Funding 1984	State Funding 1985	State Funding 1986
Mid East Suffolk	80,000	180,000	310,000
Mid Hudson	0	110,000	200,000
Mid State	0	0	100,000
Middle Country	0	0	100,000
Middletown	60,000	70,000	80,000
Mohawk Regional	30,000	100,000	130,000
Nassau	20,000	65,000	140,000
New Hartford	20,000	35,000	50,000
New Rochelle	0	65,000	95,000
New York City	700,000	750,000	750,000
North Bellmore	20,000	30,000	50,000
North Country	100,000	165,000	260,000
Northern Westchester/Putnam	90,000	100,000	155,000
Nyack	20,000	40,000	55,000
Oceanside	20,000	35,000	65,000
Orleans Niagara	80,000	110,000	160,000
Oswego County	20,000	80,000	160,000
OWL at Lindenhurst	0	45,000	80,000
Pittsford	35,000	70,000	80,000
Plainedge	0	22,000	35,000
Rochester	100,000	140,000	270,000
Rockland	100,000	115,000	140,000
Rome	0	0	70,000
Rush Henrietta	20,000	35,000	60,000
Scarsdale	30,000	45,000	65,000
Schuyler Chemung Tioga/Corning	0	100,000	170,000
South Huntington	30,000	40,000	75,000
Southampton Hampton Bays	20,000	20,000	70,000
Southern Tier	0	0	100,000
Southtown	40,000	100,000	125,000
St. Lawrence Valley	20,000	30,000	170,000
SUC Purchase	30,000	115,000	150,000
Sullivan County	20,000	85,000	130,000
Syracuse	280,000	305,000	370,000
Utica	0	0	100,000
Valley Stream	0	70,000	80,000
Victor	0	0	50,000
Wantagh Seaford	50,000	70,000	80,000
Wayne Finger Lakes	0	100,000	160,000
West Genesee	25,000	75,000	85,000
West Irondequoit	0	35,000	55,000
Westchester	0	70,000	115,000
Western Suffolk	0	100,000	200,000

History of Funding for New York State
Teacher Resource and Computer Training Centers
Fiscal Years 1984-85, 1985-86 and 1986-87

Name of Center	State Funding 1984	State Funding 1985	State Funding 1986
Westhampton Beach	20,000	75,000	85,000
White Plains	35,000	55,000	70,000
"Total"	**$3,500,000**	**$6,000,000**	**$10,000,000**

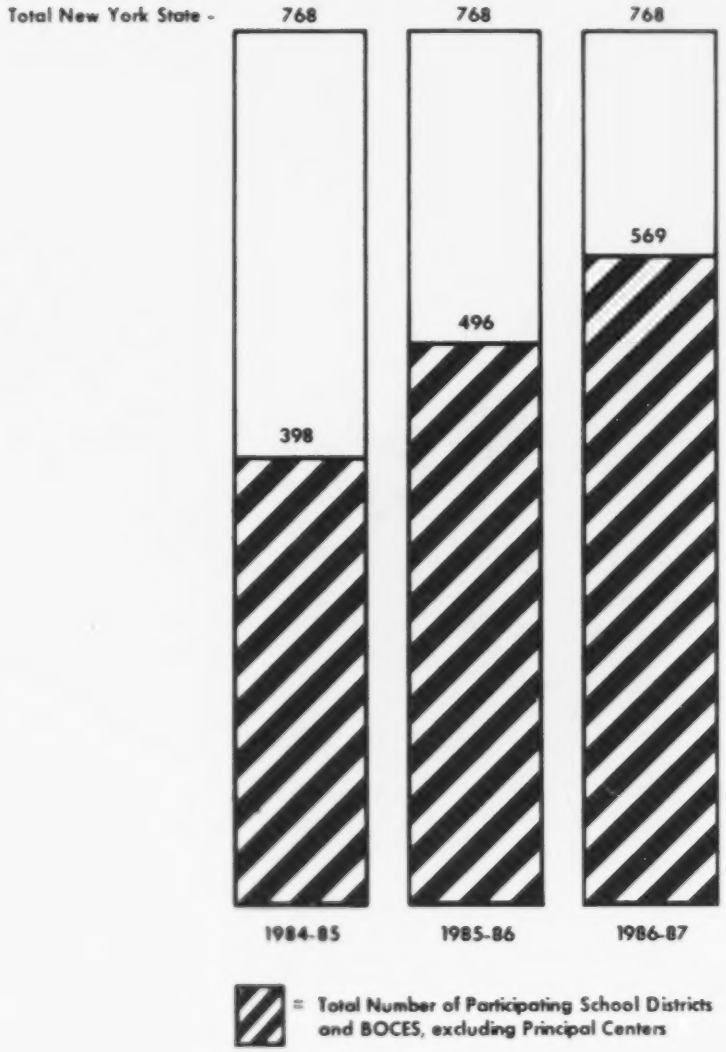
APPENDIX C


NEW YORK STATE
TEACHER RESOURCE AND COMPUTER TRAINING CENTERS
1986-87
Participating School Districts
- Participating Districts
- Non-participating Districts

APPENDIX D

NEW YORK STATE
TEACHER RESOURCE AND COMPUTER TRAINING CENTERS
1986-87

Participating School Districts and Boards of Cooperative Educational Services



APPENDIX E

(SEE ATTACHED KEY)
LAKE ONTARIO
LAKE ERIE
LONG ISLAND SOUND
ATLANTIC OCEAN
NEW YORK STATE
TEACHER RESOURCE AND COMPUTER TRAINING CENTERS
1986-87
Location of Teacher Centers

Location of Teacher Centers–KEY

1 The Teacher Center of Ardsley, Greenburgh and Elmsford
2 Bedford Teacher Center
3 BOCES/CHHOP Teacher Center
4 Brighton Teacher Center
5 Bronxville Teacher Center
6 The Teacher Center of Broome-Tioga Counties
7 Buffalo Teacher Center
8 Catskill Regional Teacher Center
9 Cayuga Onondaga Teacher Center
10 Central New York Teacher Center
11 Chautauqua County Teacher Center
12 Connetquot Teacher Center
13 Dryden Teacher Center
14 East Meadow Teacher Center
15 East Ramapo Teacher Center
16 Endicott Teacher Center
17 Erie Catt Teacher Center
18 Genesee Region Teacher Center
19 Greater Capital Region Teacher Center
20 Herricks Consortium Teacher Center
21 Inter County Teacher Center
22 Staff Development Center of the Islips
23 Jamesville DeWitt/Syracuse University Teaching Center
24 Jefferson Lewis Teacher Center
25 Levittown Teacher Center
26 Long Island Principal Center
27 Mamaroneck Teachers' Institute
28 Manhasset Teacher Resource Center
29 Massapequa Teacher Center
30 Mid East Suffolk Teacher Center
31 Mid-Hudson Teacher Center
32 Mid-State Teacher Resource Center
33 Middle County Teacher Center
34 Middletown Teacher Center
35 Mohawk Regional Teacher Center
36 Nassau TRACT Center
37 New Hartford Teacher Center
38 New Rochelle Staff Resource Center
39 New York City Teacher Center Consortium
40 North Bellmore Teacher Center
41 North Country Teacher Resource Center
42 Northern Westchester/Putnam Teacher Center
43 Nyack Staff Development Center
44 Oceanside Teacher Center
45 Orleans Niagara Teacher Center
46 Oswego County Teacher Center
47 OWL Teacher Center at Lindenhurst
48 Pittsford Teacher Center
49 Plainedge Teacher Center
50 Rochester Teacher Center
51 Rockland Teacher Center at Haverstraw Stony Point
52 Rome Teacher Center
53 Rush Henrietta Teacher Center
54 Scarsdale Teachers' Institute
55 Schuyler-Chemung-Tioga/Corning Teacher Center
56 South Huntington Teacher Center
57 Southampton-Hampton Bays Teacher Center
58 Southern Tier Teacher Center
59 Southtown Teacher Center
60 St. Lawrence Valley Teacher Center
61 SUC at Purchase, The Teacher Center of
62 Sullivan County Teacher Center
63 Syracuse Teacher Center
64 Utica Teacher Center
65 Valley Stream Teacher Resource Center
66 Victor Teacher Center
67 Wantagh Seaford Teacher Center
68 Wayne Finger Lakes Teacher Resource Center
69 West Genesee/Syracuse University Teaching Center
70 West Irondequoit Teacher Center
71 Westchester Principals' Center
72 Western Suffolk Teacher Center
73 Westhampton Beach Teacher Center
74 White Plains Staff Development Center

APPENDIX F

DIRECTORY OF NEW YORK STATE TEACHER RESOURCE AND COMPUTER TRAINING CENTERS 1986-87 BY REGIONAL NETWORKS

Long Island Network

Teacher Center	City	Phone Number
Connetquot Teacher Center	Bohemia	(516) 244-2363
East Meadow Teacher Center	East Meadow	(516) 794-7000 EXT 270
Herricks Teacher Center Consortium	New Hyde Park	(516) 248-1288
Inter County Teacher Resource Center*	Glen Cove	(516) 671-8186
Islips, Staff Development Center of the*	Central Islip	(516) 348-5112
Levittown Teacher Center	Levittown	(516) 579-6275
Manhasset Teacher Curriculum Center	Manhasset	(516) 365-4210 EXT 329
Massapequa TRACT	Massapequa	(516) 541-6600 EXT 374
Middle Country Teacher Center*	Selden	(516) 736-5895
Mid East Suffolk Teacher Center*	Islip	(516) 331-6600
Nassau TRACT*	Carle Place	(516) 248-7583
North Bellmore Teacher Center	North Bellmore	(516) 679-8094
Oceanside Teacher Center	Oceanside	(516) 678-1200 EXT 223
OWL Teacher Center*	Lindenhurst	(516) 226-2772
Plainedge Teacher Center	North Massapequa	(516) 735-8706
Principals' Center of Long Island*	Greenvale	(516) 299-2894
Southampton-Hampton Bays Teacher Center*	Southampton	(516) 283-6800 EXT 322
South Huntington Teacher Center	Huntington Station	(516) 673-1765
Valley Stream Teacher Center	Valley Stream	(516) 561-1492
Wantagh Seaford Teacher Center*	Wantagh	(516) 781-2604
Western Suffolk Teacher Center*	Commack	(516) 543-0597
Westhampton Beach Teacher Center*	Westhampton Beach	(516) 288-3801

Lower Hudson Network

Teacher Center	City	Phone Number
Bedford Teacher Center	Bedford	(914) 241-6116
BOCES/CHHOP Teacher Center*	Yorktown Heights	(914) 245-2700
Bronxville Teacher Center	Bronxville	(914) 337-5600 EXT 284
East Ramapo Teacher Center	Spring Valley	(914) 577-6375

Mamaroneck Teachers' Institute	Mamaroneck	(914) 698-9000 EXT 207
Middletown Teache. Center	Middletown	(914) 343-3143
New Rochelle Staff Resource Center	New Rochelle	(914) 632-9000 EXT 452
New York City Teacher Center Consortium	New York	(212) 475-3737
Northern Westchester/Putnam Teacher Center*	North Salem	(914) 669-5414
Nyack Staff Development Center	Nyack	(914) 353-3063
Rockland Teachers' Institute	Stony Point	(914) 942-2513
Scarsdale Teachers' Institute	Scarsdale	(914) 723-5500 EXT 146
Sullivan County Teacher Center*	Liberty	(914) 292-4332
The Teacher Center of Ardsley, Greenburgh & Elmsford*	Hartsdale	(914) 948-8037
The Teacher Center at SUC Purchase*	Purchase	(914) 253-5039
Westchester Principals' Center*	Ardlsey	(914) 693-7576
White Plains Staff Development Center	White Plains	(914) 997-2438

Eastern Upstate Network

Teacher Center	City	Phone Number
Catskill Regional Teacher Center*	Oneonta	(607) 432-7530
Greater Capital Region Teacher Center	East Greenbush	(518) 477-2635
Jefferson Lewis Teacher Center*	Watertown	(315) 782-0467
Mid Hudson Teacher Center*	Marlboro	(914) 236-4745
Mid State Teacher Resource Center*	Verona	(315) 363-8000
Mohawk Regional Teacher Center*	Herkimer	(315) 867-2097
New Hartford Teacher Center	New Hartford	(315) 724-9861 EXT 201
North Country Teacher Resource Center*	Plattsburgh	(518) 564-5000
Rome Teacher Resource Center	Rome	(315) 339-4433
St. Lawrence Valley Teacher Center*	Canton	(315) 386-4525
Utica Teacher Resource Center	Utica	(315) 792-2277

Central New York Network

Teacher Center	City	Phone Number
Broome Tioga Counties, The Teacher Center of*	Endwell	(607) 757-9230
Cayuga Onondaga Teacher Center*	Auburn	(315) 253-2385
Central New York Teacher Center*	Syracuse	(315) 433-2650
Dryden Teacher Center	Dryden	(607) 844-8111
Endicott Teacher Center	Endicott	(607) 748-9039
Jamesville DeWitt/Syracuse University Teaching Center	Jamesville	(315) 445-8373
Oswego County Teacher Center*	Mexico	(315) 963-0818
Syracuse Teacher Center	Syracuse	(315) 425-4217
West Genesee/Syracuse University Teaching Center	Camillus	(315) 672-3183

Greater Rochester Network

Teacher Center	City	Phone Number
Brighton Teacher Center	Rochester	(716) 442-1500
Pittsford Teacher Center	Pittsford	(716) 385-6750 EXT 374
Rochester Teacher Center	Rochester	(716) 266-0006
Rush Henrietta Teacher Center	Henrietta	(716) 359-3137
Schuyler Chemung Tioga/Corning Teacher Center*	Elmira	(607) 739-3581
Southern Tier Teacher Center*	Bath	(607) 776-6879
Victor Teacher Center	Victor	(716) 924-3252
Wayne Finger Lakes Teacher Resource Center	Stanley	(716) 526-6431
West Irondequoit Teaching/Learning Center	Rochester	(716) 266-1844

Far West Network

Teacher Center	City	Phone Number
Buffalo Teacher Center	Buffalo	(716) 885-7149
Chautauqua County Teacher Center*	Fredonia	(716) 679-4240
Erie Catt Teacher Resource Center*	Orchard Park	(716) 662-0135
Genesee Region Teacher Center*	Batavia	(716) 343-2480
Orleans Niagara Teacher Center*	Newfane	(716) 778-7754
Southtown Teacher Center*	Hamburg	(716) 649-6775

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